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ABSTRACT

In 1986, the National Center for Research in Vocational Education undertook a major data collection project, Understanding the Dynamics of Secondary Vocational Classrooms--A Prerequisite to Improvement. The study's primary purpose was to collect national data on the instructional content and processes of occupational education programs at the high school level. The resultant national database includes observations of 893 classrooms in 120 high schools that were selected by using a stratified random sampling procedure. It was concluded that although vocational classrooms offer frequent and varied opportunities for reinforcing and enhancing students' basic skills, far too many of these opportunities are lost. Generally, when basic skills are part of the instruction occurring in vocational classrooms, teachers use more traditional instructional methods. The use of competency-based strategies and procedures is quite prevalent in vocational classrooms nationally. No significant differences were found in vocational classrooms in comprehensive, area vocational, and vocational specialty schools. Neither were any significant differences found between the instructional materials and activities used by degreed and nondegreed vocational teachers. (Over half of this report consists of detailed discussions of responses to each of the study's 26 questions. The survey instruments and record layouts for the three project data files--schools, teachers, and classrooms--are appended.) (MN)

THE DYNAMICS OF SECONDARY VOCATIONAL CLASSROOMS

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FOREWORD

Efforts to improve schools require a greater understanding of those institutions and what goes on within them. That understanding is also a critical ingredient in efforts to improve the quality and effectiveness of vocational education, two stipulations of the Carl D. Perkins Vocational Education Act. Adding to the requirements for a fuller understanding of vocational education settings and processes is the need to address the numerous claims for and criticisms of vocational education that have appeared in recent studies and commissioned reports concerning the quality of American education. These claims and criticisms have been based largely upon anecdotal information, contradictory perceptions of the teaching-learning process, and inferences drawn from a limited number of research studies.

This document is the preliminary result of one of the most significant studies in vocational education undertaken in recent time. It contains summaries of selected information gleaned from a broad spectrum of schools, classrooms, school personnel, and students that should lead to the improvement of schools and related vocational programs. Addressing a range of topics, this report represents the research potential afforded by the study's comprehensive database, which will continue to be available as a rich source of information for future analyses. This document will be of interest to educational researchers, planners, and policymakers at state and national levels.

Dr. James M. Weber conceptualized this study, developed the requisite instruments and procedures, and implemented the study

over a 2-year period. Nancy Puleo served a major role in the study's coordination, data collection, data processing, and technical writing. Critical assistance in data collection, data processing, and technical writing was also provided by Paula Kurth. Marta Fisch, in addition to aiding the collection of data, provided essential systems inputs related to processing the data and defining the resulting database. Dave Schaffner assisted in executing the required statistical analyses and preparing the resulting tabular summaries. The study was conducted in the National Center's Evaluation and Policy Division headed by Dr. N. L. McCaslin.

Appreciation is also extended to Dr. William Hull who assisted with data collection and the initial training of field site representatives and to Jennifer Humphries Cummings who helped with preliminary planning activities and a major portion of the data collection. Special thanks are also due to Dr. Robert E. Taylor, Executive Director Emeritus, without whose vision and unwavering support this study could not have been conducted. Finally, a data collection effort of this magnitude would have not succeeded without the full, generous cooperation of the state and local personnel involved with the 120 schools that were visited.

This project was sponsored by the Office of Vocational and Adult Education, U.S. Department of Education.

Ray D. Ryan
Executive Director
The National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

Given the significant role work has in our society, it is generally agreed that work-related education needs to be given careful consideration and scrutiny as a major factor in the preparation of our work force. In relation to this issue, Goodlad (1984) notes:

> In our society people spend a large amount of their time working. Therefore, an individual's personal satisfaction will be significantly related to satisfaction with his or her job. In order to make an intelligent career decision, one needs to know one's own aptitudes and interests as they relate to career possibilities. Next, one must be able to obtain whatever specialized training is necessary to pursue the vocation selected and to develop attitudes that will help one succeed in the field. This goal is important also for the continued growth and development of society. (p. 52)

Although many other individuals have expressed opinions and have speculated on the role and importance of vocational education in the United States, to this point, no systematic gathering of the best information possible regarding the policy issues and concerns facing the field has been conducted. The identification of such issues and concerns as well as the explication and comparison of related policy alternatives is heavily dependent upon information that is timely, relevant, objective, reliable, valid, and usable. Generally speaking, however, such information is both costly and difficult to acquire. As a result, all too often policy-related analyses in education, including vocational education, are based principally upon "expert" opinion, anecdotal information, contradictory perceptions, and inferences drawn from limited numbers of unrelated research studies. The absence of

such systematic data has been most prevalent in the area of vocational-technical education.

The need for such systematic data was highlighted by Goodlad (1984), who argued that efforts to improve schools and school programs (including vocational programs) require a greater understanding of those institutions and what goes on within them (i.e., defines their ethos). That understanding is an essential ingredient in efforts to improve the quality and effectiveness of vocational education, two basic outcomes mandated under the Carl D. Perkins Vocational Education Act.

In an effort to help respond to the informational void noted above, in 1986 the National Center for Research in Vocational Education undertook a major data collection project, Understanding the Dynamics of Secondary Vocational Classrooms--A Prerequisite to Improvement. The primary purpose of that study was to collect systematic, national data on the content, processes, and outcomes of occupational education programs at the high school level. The resulting database represents a substantial, unique resource for looking at different national policy concerns and related alternatives, particularly concerns focused on the delivery of work-related instruction at the classroom level.

Included in the national database are observations of 893 classrooms in 120 high schools. The classrooms in each school were selected using a stratified random sampling procedure so as to represent each vocational service area offered in the school plus two nonvocational classes offered either in the school or its affiliated feeders (where applicable). The 120 schools constitute

an unbiased, nationwide sample of high schools that offer two or more federally funded vocational programs, with systematic variations in such factors as school size, type, location, racial/ethnic mix of student body, economic status of the community, and geographic characteristics. An overview of the sampled classrooms and schools is presented in table 1i.

Each of the classrooms included in the project sample was observed by one assigned observer on two different occasions (2 class periods on two different days) during a 1-week period. Then the data were accumulated over occasions (i.e., class periods) into a single observational protocol per classroom. Aggregating the observational data in this way served to increase their validity by increasing the generalizability of the observations over time. Furthermore, during the collection of these data individual observers were assigned so that they visited no state more than once, and they visited each type of school sampled. Such restrictions helped guard against the results being confounded by individual observer's idiosyncrasies.

The different groups of respondents who provided data for the study, as well as the types of data they provided, are summarized in table 2i. When reviewing that table, it should be remembered that--

- data were collected from two subsamples of teachers in each school-one subsample consisted of those teachers whose classrooms were actually observed during the study and the second subsample consisted of a random sample of nonobserved teachers in each sampled school.

TABLE 1i

THE SAMPLE OF CLASSROOMS/SCHOOLS

Unit	Characteristics	
	Speciality	
Classrooms	Vocational	Non-Vocational
(1) Numbers	649	244
(2) Size (Avg. No. Students)	16.1	23.1
(3) (a) Avg. % Black Students	16	14
(b) Avg. % Hispanic Students	9	9
(4) Avg. % Female Students	47	43
(5) Avg. % Handicapped Students	7	3

Schools

(1) Type:
(a) Comprehensive-50% (b) Area Vocational-37%
(c) Vocational Speciality-13%

(2) Size:
(a) Students-Mean = 947 (b) Teacher-Mean = 51.7

(3) Location:
(a) Rural-32.7% (b) Suburban-29.8%
(c) Urban-37.5%

(4) Regions:
(a) Northeast-24% (b) Central-25%
(c) Southeast-13% (d) West-38%

(5) (a) Average % Black Students -12.8 Range 0 to 99
(b) Average % Hispanic Students- 8.2 Range 0 to 93

(6) Average % of Community Who Are Economically Disadvantaged-23.0

(7) Average % of students from families with incomes:
(a) Above $25,000-20.4 Range = 0 to 95
(b) Below $10,000- 9.6 Range = 0 to 99

TABLE 2i

SUMMARY OF THE RESPONDENTS AND TYPES OF DATA THAT DEFINE THE DATABASE

Respondents (Data Sources)		Numbers Completed		
		Interviews	Questionnaires	Observations
o Principal		117	107	(Not Applicable)
o Counselor		116	114	(Not Applicable)
o Teachers	(a) Observed	850	737	(Not Applicable)
	(b) Nonobserved	(Not Applicable)	1514	(Not Applicable)
o Students (Observed classes only)		4389	(Not Applicable)	(Not Applicable)
o Classrooms*		(Not Applicable)	(Not Applicable)	893

NOTE: The numbers shown do not include the sets of school-related and class-related reports and other documents that were reviewed and used as secondary data sources.

*,Of these classrooms, approximately 2/3 involved vocational courses and 1/3 involved nonvocational courses.

- data were collected from students in each of the observed classrooms via a small group interview process that typically involved five or six students.

- the numbers shown do not include the sets of school-related and class-related reports and other documents reviewed by the study's field-site personnel---in particular, the 764 class/course syllabi and other reports/documents containing outcome data that were reviewed/evaluated.

The actual database that was generated is defined by three major data files. Those three files are as follows:

- School File, which contains data on 496 variables for each of the 120 sampled schools

- Teacher File, which contains data on a total of 267 variables for each of 2251 teachers (737 observed and 1514 nonobserved)

- Classroom File, which is defined by 2,682 variables for each of the 893 classrooms observed during the study

Following the preparation of these different data files, they were used to address a limited number of the total, potential set of research questions that could be explored. In all, 26 such questions were considered. Those different questions involved 13 major policy issues/concerns gleaned from a review of a number of the recent reform reports, the Carl D. Perkins Vocational Education Act, and other pertinent literature, for example, The Unfinished Agenda (Naional Commission on Secondary Vocational Education 1984). The 13 areas addressed were basic skills; at-risk students; access and equity; transferable skills; career guidance; JTPA/CBO and vocational education linkages; institutional characteristics; teacher education; private sector-vocational education linkages; economic development; currentness of vocational curricula, equipment, and materials; postsecondary; and adults, including inmates.

The general findings obtained in relation to the designated set of 26 questions included the following:

- Although vocational classrooms offer frequent and varied opportunities for reinforcing and enhancing students' basic skills, far too many of these opportunities are lost and more needs to be done if the intent of the Perkins Act is this critical area is to be realized.

- Generally, when basic skills are part of the instruction occurring in vocational classrooms, teachers use more "traditional" methods of instruction (i.e., approaches more like those used by nonvocational teachers) than they do when basic skills are not an explicit part of the ongoing instructional process/content.

- As in the case of basic skills, vocational classrooms appear to provide frequent and varied opportunities for strengthening students' higher-order skills, but teachers and students do not appear to capitalize fully on those opportunities.

- Although vocational classrooms appear to be a more fertile ground for fostering positive student work habits and employability skills than do academic classrooms, relatively little actual instructional time (2 percent of the time in vocational classrooms) is devoted expressly to their development. Furthermore, although counselors reported providing considerable career planning opportunities, that would generally appear to be the case only if career planning is treated as synonymous with planning to go to college.

- Generally, it seems that the materials, equipment, and skills in vocational programs are fairly current, and whereas they could be updated (particularly in some rapidly changing areas and in some locales), they are not as outmoded and unrelated to the state of the art in their related occupational areas as has been depicted in some sources (e.g., Goodlad [1984] and Boyer [1983]).

- It appears that at the national level the use of competency-based strategies and procedures is quite prevalent in vocational programs (i.e., in 60 percent to 80 percent of those programs); however, the available data provided few insights into the quality of the competency-based approaches reportedly used or the extensiveness with which they have been implemented (either generally or in specific settings).

- Clearly the instructional materials and activities (i.e., the instructional processes) employed in vocational classrooms differ in some substantial and significant ways from those used in nonvocational classes and those processes differ considerably from the model pattern observed in "A Study of Schooling" (Goodlad et al. 1979) conducted a decade ago.

- The relative emphasis placed on reinforcement and feedback is comparable in vocational and nonvocational classrooms.

- Overall, the observed results indicate that there are no major differences among vocational classrooms in comprehensive, area vocational, and vocational specialty schools in regard to the relative emphasis being placed on reinforcing and enhancing students'

basic skills. Furthermore, those results reinforce the conclusion noted earlier, that regardless of the type of school in which the classes are offered, many of the available opportunities for enhancing/reinforcing students' basic skills are lost.

- It would appear that, with the exception of computer-based word processing, the skills being taught and equipment/tools available in vocational specialty and area vocational schools are more current than those available in comprehensive schools.

- Basically the instructional materials and activities observed being used by degreed and nondegreed vocational teachers in their classrooms were the same.

- The data clearly show that the recent changes in high school graduation requirements have generally led to decreased enrollments and that those changes have <u>not</u> differentially affected vocational enrollments across comprehensive, area vocational, and vocational specialty schools.

- With regard to counseling services, the data suggest that students across the three types of schools studied spend similar amounts of time interacting with counselors and that the services available in all three types of schools appear not to differ significantly.

- The frequency with which linkages were reported between the three types of schools studied and various community-based organizations did not differ appreciably.

- Overall, it appears that the role of the comprehensive school is becoming more focused on "career exploration" goals (though perhaps not by design), whereas the role of area vocational and vocational specialty schools is becoming more focused on job-specific skill training.

- It appears that teachers in comprehensive, area vocational, and vocational specialty schools are receiving pretty much the same types and amounts of inservice training.

- Generally, vocational teachers are more likely to be involved in communitywide economic development activities than nonvocational teachers and the vocational teachers in area vocational schools are either as involved or more involved in such

activities than are their counterparts in comprehensive and vocational specialty schools.

- Although participation in postsecondary education is positively correlated with participation in the college preparatory curriculum (which is typically offered only in comprehensive schools), the data do not demonstrate that participation in secondary vocational education (regardless of the type of school one attends) represents an educational "dead end" (Campbell, Gardner, and Seitz [1982])--vocational teachers reported that between 17 and 23 percent of their students attend 2-year post-secondary schools and between 12 and 18 percent attend 4-year institutions.

- There appears to be a considerable amount of interaction and (formal) articulation occurring between secondary and postsecondary institutions--such linkages were reported in over 50 percent of the schools studied.

- With regard to the involvement of business-industry and labor reprsentitives, it would appear that such representatives are consistently consulted by vocational personnel regarding a fairly wide array of program-related issues and that they are more frequently involved in the vocational programs in area vocational and vocational specialty schools than in the programs of comprehensive schools.

- Although personnel in about 55 percent of the schools studied report either having dropout prevention/recovery programs in place or having elements of such programs in place, the amounts of time reported by school personnel on this problem (e.g., participating in related inservice activities and working with dropout-prone students) would appear to be inadequate and rather coincidental, particularly given the breadth and pervasiveness of the problem.

- Generally, it appears that teachers (both vocational and nonvocational) devote relatively little time to planning and actual development of instructional activities/materials intended specifically to address the unique needs of their at-risk students. This lack of emphasis is particularly obvious when reflected against the mandate in the Perkins Act that "special needs" initiatives should account for 57 percent of the funds spent.

- The data suggest that the instruction that occurs across classes that have high concentrations of at-risk students is very much like the instruction provided in other classes, whether they be other vocational or nonvocational classes.

- Overall, the level of involvement of secondary teachers and counselors in either the development or review of IEPs for the handicapped students they serve is quite limited. In addition, it would appear that vocational teachers are less involved than nonvocational teachers.

- The available data suggest that teachers (both vocational and nonvocational) currently receive very limited training, either through formal college courses or inservice, in working with and addressing the unique needs of different at-risk learners.

- Overall, 40 to 50 percent of the sampled schools reported offering vocation-related courses or other special programs for adult learners, and it appears that such offerings are provided more often in area vocational and vocational specialty schools than in comprehensive schools.

INTRODUCTION

According to a report by the Education Commission of the States (1985), "A growing proportion of our young people are not making a successful transition to productive adult lives. They are paying a heavy price. We as a society are paying a heavy price. In the years ahead the costs are going to get higher." If our vocational-technical education and training system is to help reverse this trend, as well as help train (and retrain) a significant proportion of the workers for the year 2000, then one central issue that needs to be addressed is What skills, knowledge, and attitudes will be required of future workers in order for us to remain competitive in the world marketplace, and how can they be provided effectively by our education and training institutions?

As shown in figure 1, vocational education has a critical role to play in resolving this question. The centrality of that role was reinforced by President Reagan when he stated that

> America has no higher stake than in the quality of your education . . . We should see that all of our young people get a good grounding in English and literature, history, math, science and other basics . . . [but] we must also recognize that our vocational classrooms are just as important as any other.

The results of a recent Gallup Poll of the public's attitude toward the public schools (Gallup 1984) generally support this perspective. In that survey 84 percent of the respondents, as compared to 64 percent in 1981, felt that vocational courses (outranked only by mathematics and English) should be required for

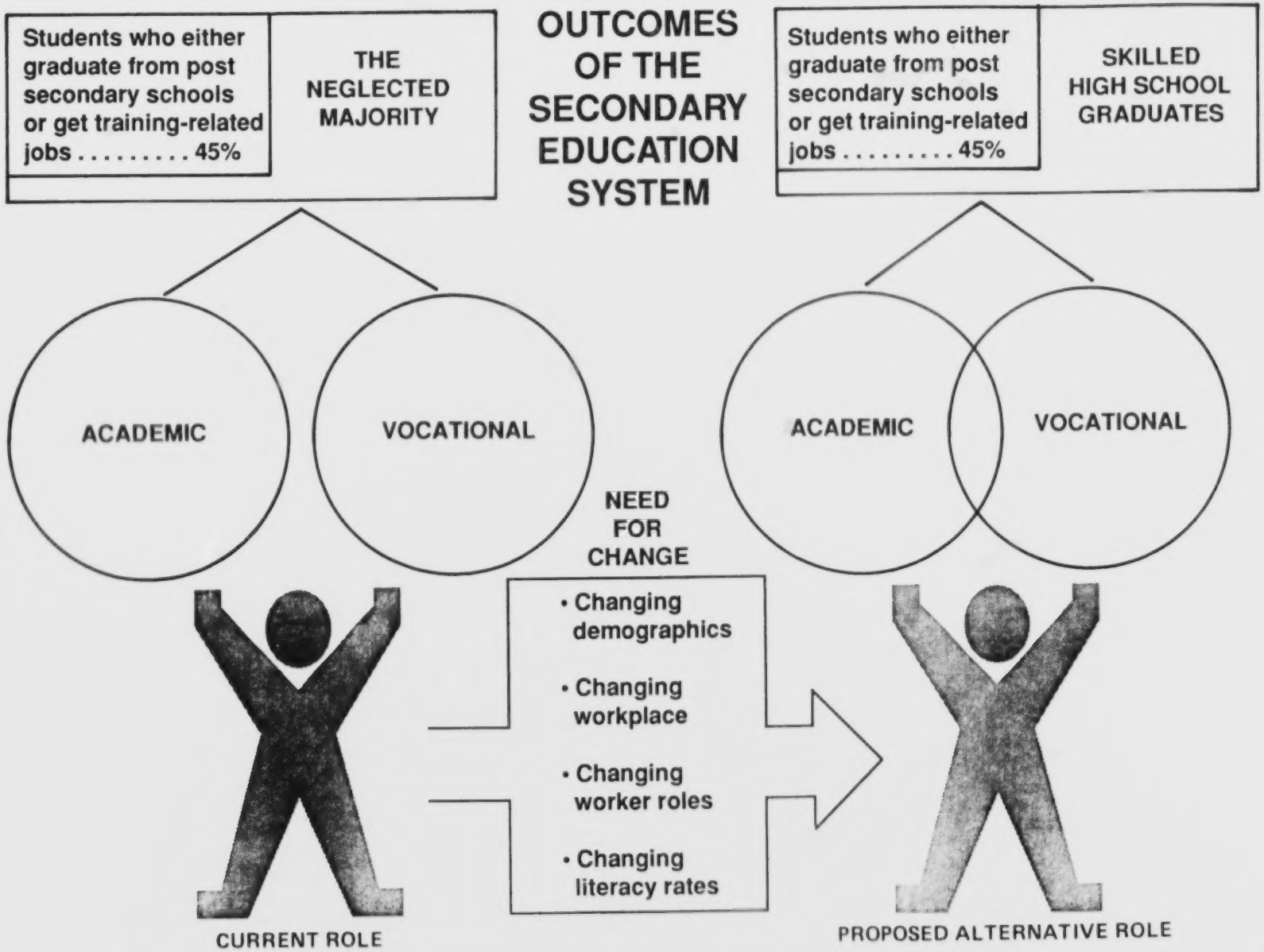

Figure 1. An alternative role for vocational education in preparing skilled workers for the year 2000 and beyond.

students not planning to go to college. Furthermore, 37 percent felt that some vocational education should be required even for students who are planning on attending college.

Despite this substantial and growing public sentiment regarding the importance of vocational education, it is still widely perceived as strictly preparing students for "hand" occupations, such as low-status, blue-collar jobs that don't require a college or professional degree (National Commission on Secondary Vocational Education 1984). As a result, vocational education is relegated to second-class or peripheral status by many people, including many educators. Furthermore, it has been argued that vocational education, particularly at the secondary school level--

- provides a tenuous link, at best, to job opportunities--for example, it provides no employment advantages over those afforded by a general education curriculum (Osterman 1980) except in the "secretarial sciences" (Woods and Haney (1981);

- provides training for low-paying, dead-end jobs that require little, if any, formal education, not for high-tech growth occupations, which required more technical training than most high schools can provide (Boyer 1983);

- involves skills that are outdated or outmoded, do not reflect current business and manufacturing practices, and are often taught using facilities and equipment that should have been replaced years ago (Woodruff 1978);

- takes up time that students need to use for learning the basics and for acquiring a quality education (Boyer 1983, p. 123); and

- involves, by virtue of its association with "low-track" students, activities and skills that are far less challenging, less stimulating and effective, and at a lower level of cognitive processes than

those required in "high-track" classes (Oakes 1980).

In contrast to such arguments, advocates of vocational education contend that it--

- serves as a powerful motivator for students and has positive ramifications for addressing the needs of many at-risk students, such as the disadvantaged, potential dropouts, or handicapped (Overman 1980);
- incorporates specific strategies for identifying job-related changes and systematically updating training so as to incorporate those changes (National Commission on Secondary Vocational Education 1984);
- offers a variety of opportunities for reinforcing and enhancing students' basic skills in applied contexts that have direct relevance and transferability to the real world (Carnegie Foundation 1982);
- involves the teaching of problem solving and other higher-order analytical skills, not just simple rote skills (National Commission on Secondary Vocational Education 1984); and
- affords students opportunities to acquire basic work habits and values, career decision-making skills, job search skills, and so on, that are needed to secure and retain jobs successfully (National Commission on Secondary Vocational Education 1984).

To date, these kinds of conflicting claims regarding vocational education's role and potential for achieving the kinds of outcomes needed over the next decade have been based largely upon--

- anecdotal information,
- a maze of contradictory perceptions regarding the teaching-learning process (Kaplan 1985), and
- inferences drawn from a limited number of unrelated research studies, many of which rely on data that are 5 years old or more.

No systematic database has existed that could serve as both a benchmark and framework for evaluating such contradictory arguments, for describing the key factors that operationally define what goes on in vocational classrooms or the context within which they function, or serving as a baseline for evaluating the effects of different program improvement initiatives under the current federal vocational legislation. The purpose of the study described herein has been to help address this informational void by collecting a comprehensive, national database that could be used to assess and describe systematically the dynamics of high school vocational classrooms and to serve as the benchmark noted above. The three objectives used to operationalize and delineate that purpose were as follows:

- To identify and describe key content and process characteristics that define instruction in vocational (and nonvocational) classrooms
- To identify contextual factors that appear to affect instruction that occurs in vocational classrooms
- To describe how instruction in vocational classrooms relates to the learning needs of students from populations with special needs

Background

Our vocational education and training system is continually changing (albeit, slowly) to meet changing societal needs, pressures, and priorities. It was initiated under conditions not too unlike those existing today: a major structural shift in the nation's economy and a growing threat of foreign competition (Rosenfeld 1986). As shown in figure 2, from the forties through the seventies, that system, although continuing to address basic

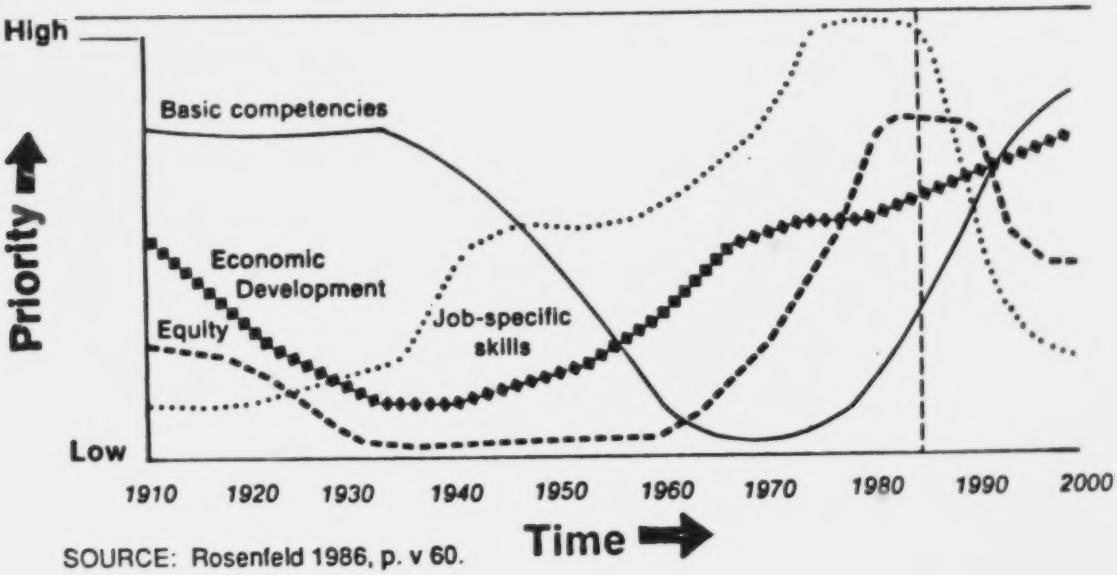

Figure 2. Determinants of excellence in vocational education, 1910-2000

skills competencies, placed an increasing emphasis on job-specific skills--an emphasis consistent with the needs of an industrial society based primarily upon manufacturing and production, with its inherent need for trained workers to do very specific jobs (Daggett 1984, Pratzner 1987).

During the 1960s, this emphasis was heightened even more by federal legislation, and the key purposes of vocational-technical education were viewed as immediate employment and job-specific training. Even the Council of Chief State School Officers (1982)

relegated such skills as decision making, basic literacy, and organizational leadership to "secondary purposes."

In the first half of the 1980s, changes in our Nation's competitive posture and workplace itself, as well as concern about the competence of our high school graduates, led to the publication of numerous investigative and prescriptive reports (e.g., Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools [Education Commission of the States 1983]; Educating Americans for the 21st Century [National Science Foundation 1983]; Nation at Risk [National Commission on Excellence in Education 1983]) on what was right and what was wrong with education in the United States, particularly secondary education. This flurry of reports helped usher in a new educational reform movement known as the "excellence movement" (Bennett 1986).

As part of the excellence movement, many suggestions have been offered, but in general, excellence is equated at the operational level with higher standards within the general academic program--standards that include a more "classical" curriculum; longer school days, school weeks, and school years; and higher student achievement scores. At the same time, many of the reform reports also recommend greater access to quality education for minority students, for females, and for the handicapped. Unfortunately, they are generally silent with regard to the inherent conflict between raising standards and increasing access (Smith and Hester 1985). Also, they fail to take into account the fact that a unidimensional core of academic course

work will not serve the needs, interests, and abilities of all the students the schools are intended to serve (Cross 1984; Smith and Hester 1985). Likewise, they pay little attention to the need for adequate vocational preparation of the majority of the student population who never complete a college course of study. Tucker and Mandel (1986) have referred to this shortcoming as the Achilles' heel of the resurgence of interest in education.

Another shortcoming of the reform reports is their failure to deal in any detail with the changes in technology, the business world, and societal demographics, all of which will have significant impact on today's students as well as students over the next decade--the work force for the year 2000. Likewise, they neglect the needs of adults (both those who are currently in the workplace and those who will need to be reeducated and retrained (e.g., every 5-10 years) in order to meet the demands of the changing workplace (Finn 1986; Carnevale 1987). Cetron (1985) points out that our "public schools will be an important base for this learning" (p. 126). Finally, although many of the reports call for the preparation of workers who have "the ability to learn and to adapt to changes in the workplace" (Panel on Secondary School Education for the Changing Workplace 1984, p. xi), the strategies they suggest for attaining those ends appear to be based upon the misperception that such skills are a direct by-product of subject-matter teaching (Wasserman 1987). Furthermore, Kaplan (1985) contends that many of these strategies are not adequately grounded in the available research.

According to Kadamas and Daggett (1986), the failure of the different reform reports to take a visionary approach can be seen in the suggestions they make for improving education. Where solutions are offered, they are for the most part offered within the framework of traditional programs, rather than establishing new directions or recommending substantial reorganization of existing systems. They argue that any dramatic improvements in the preparation of students, especially those who are not college bound, may require major changes in what is taught, when it is taught, and how it is taught, not simply increases in requirements regarding "academic" courses and higher test scores. This perspective was echoed recently in the report, Toward the Year 2000: Dilemmas Facing Education (The Vista 2000 Group 1987), which harshly criticized the current structure of our educational system for the practice of pigeonholing students into neat categories (e.g., sophomores or college preparatory vs. general vs. vocational) and for the attempt at treating students of the same age as though they are physically, mentally, and emotionally the same, with instruction generally being targeted to the average. Earlier, the National Commission on Secondary Vocational Education (1984) voiced similar concerns and, in addition, argued for a freely integrated vocational-technical/academic curriculum and against policies that track college and non-college-bound students.

The current press for change and improvement in our education system has been accompanied, if not prompted by some very dramatic changes in the workplace. For example:

- In 1960, 73 percent of the jobs were in the manufacturing sector, but by 1983, the proportion of manufacturing jobs had shrunk to 23 percent, whereas information and service occupations accounted for 75 percent of the available jobs (Daggett 1984).

- It is predicted that for United States manufacturing to remain competitive, it will have to automate to the extent that by the year 2000 the share of the total work force in manufacturing will be reduced from its current 21 percent to about 10 percent (Cyert 1985).

- The information industry is the principal employer in North America today and will continue to be so for the next 10 years (Snyder and Edwards 1984).

- Technological and related factors (principally computerization) are dramatically altering the tasks and related skill requirements of many jobs, such as claims adjusters in the insurance industry and tellers in the banking industry (Berryman 1987).

- Federal estimates are that by the year 1990 between 17 and 19 million new jobs will be created, 13 million of which will be in "white-collar" professions (Martini 1984).

- Many older, declining industries are changing via the increased use of automated equipment and the introduction of completely new technologies and occupations. Meanwhile, new production industries in which technology fields like computers and microprocessors, lasers and fiber optics, robots and flexible manufacturing, biotechnology, and automated information processing, will contribute to major shifts in employment from traditional manufacturing and blue-collar jobs to the service sector, while-collar occupations, and new manufacturing areas (Taylor, Rosen, and Pratzner 1982).

These shifts in employment opportunities point up the growing need to prepare entry-level employees with quite different skills than those required of employees in the past. Furthermore, such rapid and dramatic changes in the workplace are making the skills of a growing number of adults obsolete, greatly expanding the need for new skills, and increasing the need for widespread retraining

programs. According to some researchers (e.g., Goodman 1979; Carnoy, Shearer, and Rumberger 1983; Ferguson 1980; Naisbitt 1982; Work in America Institute 1982; Pratzner and Russell 1984) the changes occurring promise to increase work specialization and at the same time increase the need for greater employee flexibility and adaptability. As a result, education and training programs must prepare workers not only to function effectively in specific jobs, but also to be able to adapt to new jobs and occupational requirements.

In general, it would appear that several key outcomes sought via the "excellence movement," particularly the increases sought in students' basic competency levels, are in keeping with the direction of skill changes occurring in the workplace. In many of the published reform reports better education is synonymous with improved basic skills, including reading, writing, math, science, and communications skills. The importance of competency in these skills has been reinforced by the results of a number of studies which indicate that basic cognitive skills and abilities are directly related to job performance (Hunter 1980; Hunter and Hunter 1982; Schmidt and Hunter 1981; Mikulecky and Winchester 1983; Mikulecky and Ehlinger 1986; Henry and Raymond 1982).

At the same time, there is considerable evidence regarding the need for improvements in the attainment of such skills as they relate both to the current student population (Hahn and Lerman 1985; National Commission on Excellence in Education 1983) and to the current work force. For example, in a survey conducted by the Center for Public Resources (Henry and Raymond 1982), over 65

percent of the responding companies reported that the advancement of their high school graduates was limited by basic skills deficiencies and that 73 percent of their nongraduates were inhibited in their advancement by similar deficiencies. In addition, 30 percent of the companies indicated that secretaries have trouble reading at the level required by their job, 50 percent of the manager/supervisors were unable to write paragraphs free of mechanical errors, and 50 percent of the skilled and semiskilled workers (including some bookkeepers) were unable to use decimals and fractions. These results are reinforced by the results of a recent National Assessment of Educational Progress study that focused on the functional literacy abilities of young adults (Kirch and Jungeblut 1986) and the industry reports cited by Hymowitz (1981) who noted, "Given the significantly large numbers of disadvantaged youth and young adults currently unable to meet the basic skills requirements of most jobs, vocational educators face a major challenge" (p. 25).

To compound the problem even more, a number of groups and researchers (e.g., Joint Economic Committee of the U.S. Congress 1980; National Commission on Excellence in Education 1983; Mikulecky 1984; Sticht and Mikulecky 1984; Rush, Moe, and Storlie 1986) argue that most jobs in the future will generally require even higher levels of skills and better educated workers. For example, Sticht and Mikulecky (1984) note that janitorial positions usually require the ability to read manuals that may be written at above the 8th grade level, manage the directions on chemical solvents, handle new equipment, and do a great deal more

than just sweep floors. Even Levin and Rumberger (1983) who contend that the expansion of "high technology industries and their products is far more likely to reduce the skill requirements of jobs in the U.S. economy than to upgrade them" (p. 2) also note that "the continued growth of the service sector will have a tendency to raise the educational requirements of work in the U.S. economy independently of any upgrading of requirements that might take place within occupations." (Levin and Rumberger 1986, p. 11).

Several researchers (Wirth 1983; Berryman 1987; Pratzner 1987; Oakes 1986), although agreeing that such basics are essential, contend that the current proposed reforms may well be inadequate to prepare the kind of skilled work force needed in the future as envisioned by Reich (1983) and others. According to Wirth (1986), the Carl D. Perkins Vocational Education Act as well as a number of researchers (e.g., Pratzner 1985, Berryman 1987) point toward the need to prepare future workers in areas other than just the basic skills. For example, Pratzner (1987) argues that to develop higher quality workers we need to focus on improving their <u>sociotechnical literacy</u>. That concept includes the development of basic skills as well as--

> a) higher order transferable skills, such as interpersonal and group process skills, problem solving and decision making, planning, and communication, and b) skills in the organization and management of production (e.g., skills in business, economic, business operation, and statistical quality control). It also includes an understanding of the philosophical underpinnings and consequences of the shift from a mechanistic, technological, scientific management perspective of work to a high worker involvement, participative management perspective. (Wirth 1986, p. 34)

In broad terms the kinds of attendant shifts that would be projected to occur in our vocational education delivery system if such a perspective were adopted are summarized in table 1. A somewhat similar restructuring has been advocated by Oakes (1986). Under both sets of recommendations a central tenet is that if we are to train workers adequately for the year 2000, then the void that exists between vocational and general (academic) education needs to be eliminated and vocational education needs to become part of the "common curriculum" in comprehensive schools. In addition, the vocational curriculum and related instruction need to be revamped so that the current emphasis on job specific skills is replaced by an emphasis on broader skills and processes that allow workers to adapt in a productive manner to changes in the workplace. (See the related projections shown in figure 1.)

At the same time, the suggestions listed in table 1 indicate several problems that exist generally across our educational system, not just vocational education. For example, they highlight the need for placing more emphasis on developing students' problem solving and other reasoning skills. Also, they reinforce the need for giving greater attention to students' individual potential and alternative learning styles/preferences. In regard to curriculum and instruction, they highlight the need for alternative instructional approaches or teaching styles, cooperative learning, and the delegation of greater responsibility for learning to the students themselves, rather than the regimented, unimodal approach that currently characterizes instruction in our public schools (Goodlad 1984; Boyer 1983).

TABLE 1

CURRENT AND EMERGING PARADIGMS OF VOCATIONAL EDUCATION

Components of A Paradigm	Vocational Education: Current Paradigm	Vocational Education: Emerging, Alternative Paradigm
An Image of the Subject Matter	- Entry-level skill development for specialized jobs - Content/subject area - Serves the interest of employers jobs/society	- Alternative instructional approach to learning - Process - Serves education and development needs students
Beliefs in Particular Theories and Models	- Job analysis - Scientific method - Behavior modification - Teachers impart knowledge - Learning as product/emphasis on content - Acquiring "right" information once and for all	- Cooperative learning - Socratic questioning - Learning how to learn - What is "known" may change - Encourages autonomy - Supports general education development - of learners
Values	- Job placement/earnings - Employer satisfaction - Inculcate specialized skills for for specific roles - Alternative track for academically less-able/ less willing	- Individual performance in terms of potential - Egalitarian/democratic - Students assume responsibility - for own learning - Achievement plus employment - Alternative approach to learning for all students
Methods and Instruments	- Lockstep progress - Norm-referenced grading/testing - Rigid, prescribed curricula - Traditional occupation service areas - Business/industry involvement	- Criterion-reference grading/testing - Cooperative/group learning - Divergent thinking encouraged - Electives - Focus on transferable skills
Exemplars	- Most secondary and postsecondary programs to varying degrees	- Some graduate-level programs - Some industrial arts/career education programs - Some career guidance programs
Social Matrices	- AVA divisions, convention, journal; student vocational clubs; federal legislation; state department of vocational education	- Informal networks; Paidea Proposal; Society for Humanistic Education; AERA SIGS on School Effectiveness and Wholistic Education

SOURCE: From "The Vocational Education Paradigm: Adjustment, Replacement, or Extinction" by Frank C. Pratzner, 1985, Journal of Industrial Teacher Education, 22, p. 5.

What the reform debate and all the above trends suggest is that vocational-technical education must change in response to the major changes occurring in our economy and in the skills needed to succeed in that economy. In short, the available evidence suggests that if we are to maintain our competitive posture in the world marketplace through the year 2000 and beyond, our vocational-technical education/training system must work toward achieving the following aims:

- Improving the basic skill competency levels of students who are exiting from our educational institutions, as well as those whose overall skill levels need to be updated/upgraded in order to adapt to changes in the workplace
- Increasing the emphasis placed on problem-solving and other higher-order thinking skills and their applications in work settings
- Expanding the opportunities for cooperative and group-process learning, rather than just competitive learning, in order to enhance group-reasoning and problem-solving skills
- Enhancing the flexibility and diversity of the curricular strategies and materials used in vocational-technical education and training settings so as to better address the learning styles of those being served and to bring about needed improvements in their basic skills, higher-order thinking skills, and group process skills

Approach

If we are to bring about the kinds of improvements in our vocational programs that the foregoing literature suggests need to occur, Goodlad (1984) argues that we need to have a greater understanding of the institutions within which those programs are offered and what goes on within those institutions, for example, what defines their ethos. Yet as he notes in A Place Called

School, historically, little emphasis has been placed upon the systematic collection of data describing "the ways schools function in general and . . . the inner workings of schools in particular" (p. 16).

This informational void is particularly evident when it comes to vocational programs/classrooms and the institutions in which they function. For example, the findings reported by Goodlad and his colleagues are based upon a very limited database drawn from only 12 high schools and only 4 of the 6 service areas frequently used to describe vocational education--with the notable omission being the trade and industrial (T&I)/technical area, that nationally accounts for one-quarter to one-third of the students in vocational education and a substantial proportion of the specific program offerings. Furthermore, vocational education was not a primary focus of the study (i.e., it was only one of a number of subject areas addressed at the high school level, which was only one of three major levels considered). As a result, distinctions between vocational education programs and such areas as consumer education and industrial arts are not as clear as is desirable, and other important activities such as work experiences, co-op, and placement are not even mentioned or described.

A second major study, that described by Boyer (1983), suffers from similar limitations. First, it was based upon a sample of only 15 public high schools. Second, the vocational curriculum was not the primary focus of the study. Finally, the description of vocational classrooms (or other classrooms, for that matter) and

what goes on within those classrooms was not a major emphasis. Rather, the emphasis was upon looking at public high schools as educational institutions and "searching for ways to strengthen the academic quality of the public school" (p. xii), an evaluation and policy formulation function. As a result of these limitations, the study yielded a number of evaluative conclusions regarding the quality of vocational offerings but few unique insights into the processes and dynamics that occur in vocational classrooms or the schools in which they are located.

As noted earlier, the purpose of the current effort is to help address this informational gap by collecting a comprehensive, national database that can be used to assess systematically the dynamics of vocational classrooms and the factors that appear to influence those dynamics. The need to secure such data has been prompted by several recent events and needs in the field. First, although the recent reform reports are relatively silent regarding vocational education (Copa et al. 1985), the current literature suggests that all areas of our educational system need to be looked at closely, and vocational education is no exception. For example, the contention noted by Boyer (1983) that secondary vocational education takes up valuable time which students need for learning the basics and acquiring a quality education suggests that vocational education's role as part of the instructional process at the secondary level needs to be assessed. Second, if it is assumed that improving schools and school programs requires knowing what is happening in and around them, then additional knowledge/understanding of vocational programs and how they

function is essential to efforts to improve the quality and effectiveness of vocational education, two of the basic outcomes mandated under the Carl D. Perkins Vocational Education Act. Third, since the Perkins Act requires that "the Secretary shall conduct a national assessment of vocational education assisted under this Act" (House of Representatives 1984, p. 35), which is currently referred to as the National Assessment of Vocational Education (NAVE), it is essential that timely data be collected and made available to the Congress as part of that requirement. To date, however, a substantial segment of the studies supported under the NAVE Program involves analyses of such databases as HS&B (National Opinion Research Center 1983) and NLS Youth (Center for Human Resource Research, The Ohio State University), both of which are seriously limited in terms of the program data they contain and the time frames that they address, (i.e., they are seriously dated with regard to the implementation cycle for the Perkins Act and any efforts to draw related causative inferences).

Genesis of the Policy Issues and Questions Addressed During the Study

The different policy issues and questions concerning vocational education that were formulated and, in turn, helped to substantively focus the study come from a variety of sources. The specific directives and programmatic initiatives stated in the Perkins Act represented one such source. The different reform reports identified earlier, including Nation at Risk, Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools, and Educating Americans for the 21st Century, represented a second

source of issues/concerns. Recommendations from The Unfinished Agenda (The National Commission on Secondary Vocational Education 1984), which covered such areas as access to vocational education, equity, curriculum, teacher recruitment and preparation, program standards and accountability, articulation, leadership, linkages with business community, and field-based learning, were also considered.

A review and synthesis of the issues and concerns raised in these various sources led to the identification of 13 major areas of emphasis to be addressed during the study. Those areas of emphasis, along with examples of the kinds of questions raised under each area, were as follows:

1. Basic Skills. The key issue is not if more basic skills are needed, but how to best deliver them in vocational classrooms in order to meet the needs of the students enrolled in those classes. Should the vocational teacher be held responsible for teaching English or mathematics? Should students who plan to complete a sequence of sources in vocational education take more basic skills classes? Should there be more team teaching and coordination of instruction between the teachers of basic skills subjects and the teachers of vocational skills? These questions and others were of interest to this study.

2. At-Risk Students. Given the emphasis currently being placed on at-risk populations in the federal vocational legislation, it is crucial that questions regarding the involvement of such students in vocational programs be raised and addressed. Are disadvantaged students receiving the help they need and are entitled to under the law from school officials, counselors, and teachers? Do vocational teachers participate in the development of IEPs and associated planning activities for handicapped students mainstreamed in their classes? To what extent are schools tracking dropout prone students and providing them with special assistance? Do schools reach out to solicit assistance from other agencies in helping them deal in a comprehensive way with the needs of their at-risk students? Are dropouts recruited for special programs taught at the school building? These questions and others were asked of respondents in this

study in an effort to find out what schools are doing to help at-risk students.

3. Access and Equity. This area encompasses a number of issues that were a concern during the current study. For example, how well are students informed of the options available to them in vocational education? Are handicapped, limited English-proficient, and other at-risk youth underrepresented in different vocational programs, particularly advanced programs? Are gender differences continuing across different vocational programs or are they changing? Have changes occurred in high school entry and graduation requirements and have those changes influenced enrollments in vocational education?

4. Transferable Skills. Given the need for today's and tomorrow's workers to be occupationally adaptable, a number of questions were raised in relation to this issue. What higher-order cognitive skills are being taught in vocational classrooms? How much emphasis is placed on those skills in vocational as contrasted with nonvocational classrooms? Under what types of conditions are such skills being addressed? How much emphasis is placed on improving students' employability skills? Are any efforts made in vocational classes to foster students' work habits?

5. Career Guidance. Given the emphasis on this issue in the Perkins Act, during the study a number of questions were raised regarding the guidance services being afforded students who are participating in vocational programs. For example, how many counselors are available per student? How long does it take for students to get to see a counselor? What are some of the types of materials being used in guidance/counseling programs? What counseling/guidance goals are being emphasized most? About how much time during a given year do students meet with their guidance counselors? How much time do counselors and teachers spend working on cooperative kinds of activities?

6. JTPA/CBO and Vocational Education Linkages. To what extent do linkages exist between different secondary schools and JTPA-related agencies or other CBOs? What types of linkages are most frequently encountered? How are different school personnel involved in such relationships? These questions were examined as part of the study.

7. Institutional Characteristics. The delivery of vocational education has evolved in some rather unique ways across different states/locales, and during the study a number of questions were considered that dealt

with those variations in program delivery. For example, do larger, comprehensive schools train students who are more proficient in vocational subjects than other types of schools? Are area vocational centers with specialized program offerings more likely to train students for immediate employment? Are vocational students better served by basic skills teachers located in vocational centers for the full day or should basic skills classes be scheduled in home high schools?

8. Teacher Education. The preparation and inservicing of secondary vocational teachers is a continuing concern that was addressed during the study. For example, how current are the job skills of vocational teachers? When did they last update those skills? What kinds of preservice courses have the teachers completed? What kinds of certification requirements are met? How well prepared are teachers to deal with the unique needs of at-risk students? What teacher exams, if any, have vocational teachers taken? Do vocational teachers have adequate training to teach basic skills needed by their students?

9. Private Sector-Vocational Education Linkages. In the study an effort was made to understand further how the private sector influences instruction and related activities in vocational settings. How extensive are COOP and work-study programs? How are employers involved in evaluating the performances of students who participated in such programs? Do local industries provide materials and equipment for vocational programs? How do members of the private sector influence the goals, objectives, materials, and activities used in different vocational programs?

10. Economic Development. Given the perceived role of vocational education programs in strengthening the economic climate in the areas they serve, this issue received some attention during the survey. What relationships exist between the schools and business ventures in the community? Is "customized training" being offered to potential businesses that are thinking of locating in the area served? What school personnel are involved in the delivery of vocational program services to businesses in the community? Do teachers and administrators serve on community agencies trying to attract businesses?

11. Currentness of Vocational Curricula, Equipment, and Materials. The recent publicizing of negative reports regarding the datedness of equipment and skills training in vocational programs prompted the inclusion of this issue in the study. How dated are the equipment and printed materials being used in vocational programs?

Does the equipment used meet current industry standards? What types of computer training are provided in different vocational programs? In what areas are state mandated competency exams required? How often do vocational teachers talk to employers about the adequacy and appropriateness of their graduates' training?

12. Postsecondary. During the survey the respondents were asked to describe the kinds of involvements they and others in their schools have with postsecondary institutions. For example, are you part of an articulation team whose role is to improve the linkages between your vocational program and the related program offered in the community college that serves your area? How are teachers, counselors, and principals involved in different secondary-postsecondary articulation arrangements? Are there other major categories of interaction, other than articulation, that occur between your school's staff and personnel at the community college that serves your area?

13. Adults, Including Inmates. The anticipated increase in the need to upgrade and retrain adults was another issue that was considered during the survey. To what extent are the secondary school facilities and staff being used to provide the educative services for adults? Generally, what types of services are being provided and for whom? Which school personnel are involved in the delivery of those services?

As indicated earlier, these relatively broad issues suggested by the available research literature, helped substantively to focus the study and related questions. They also helped logically and operationally to limit the potential set of questions that could be raised relative to the study's purpose as presented earlier.

Framework for Characterizing the Instructional Process

Although the preceding policy issues/questions helped to delimit in a substantive way the scope of the study, they were based almost entirely upon an empirical review of diverse, sometimes contradictory, sources of literature that lacked

conceptual cohesiveness and balance. With this concern in mind, a basic framework or model for characterizing the instructional process was posited--a framework that could serve as a tool for both arraying and integrating these heretofore diverse policy issues. The framework used was adopted from "Origins of Active Learning Time" (Harnischfeger and Wiley 1985) and "Elements of Vocational Program Quality" (Campbell and Panzano 1985). Figure 3 presents a graphic depiction of that model, and detailed descriptions of its key elements can be found in the designated source documents.

As noted above, the indicated framework was used to help describe the operational context for the study. The heavy black line denotes the school environment (i.e., SCHOOL CONTEXT in figure 3) where primary emphasis of the study occurred. That focus was on the teacher and the teaching-learning process, which is depicted in the heart of the framework. Student characteristics were also viewed as important as were student-teacher interactions. Data collected regarding these elements were used to address the study's three major objectives:

- To identify and describe key content and process characteristics that define instruction in vocational classrooms
- To identify the contextual factors that appear to affect instruction that occurs in vocational classrooms
- To describe how instruction in vocational classrooms related to the learning needs of at-risk students as well as the 13 major policy issues/emphasis listed previously

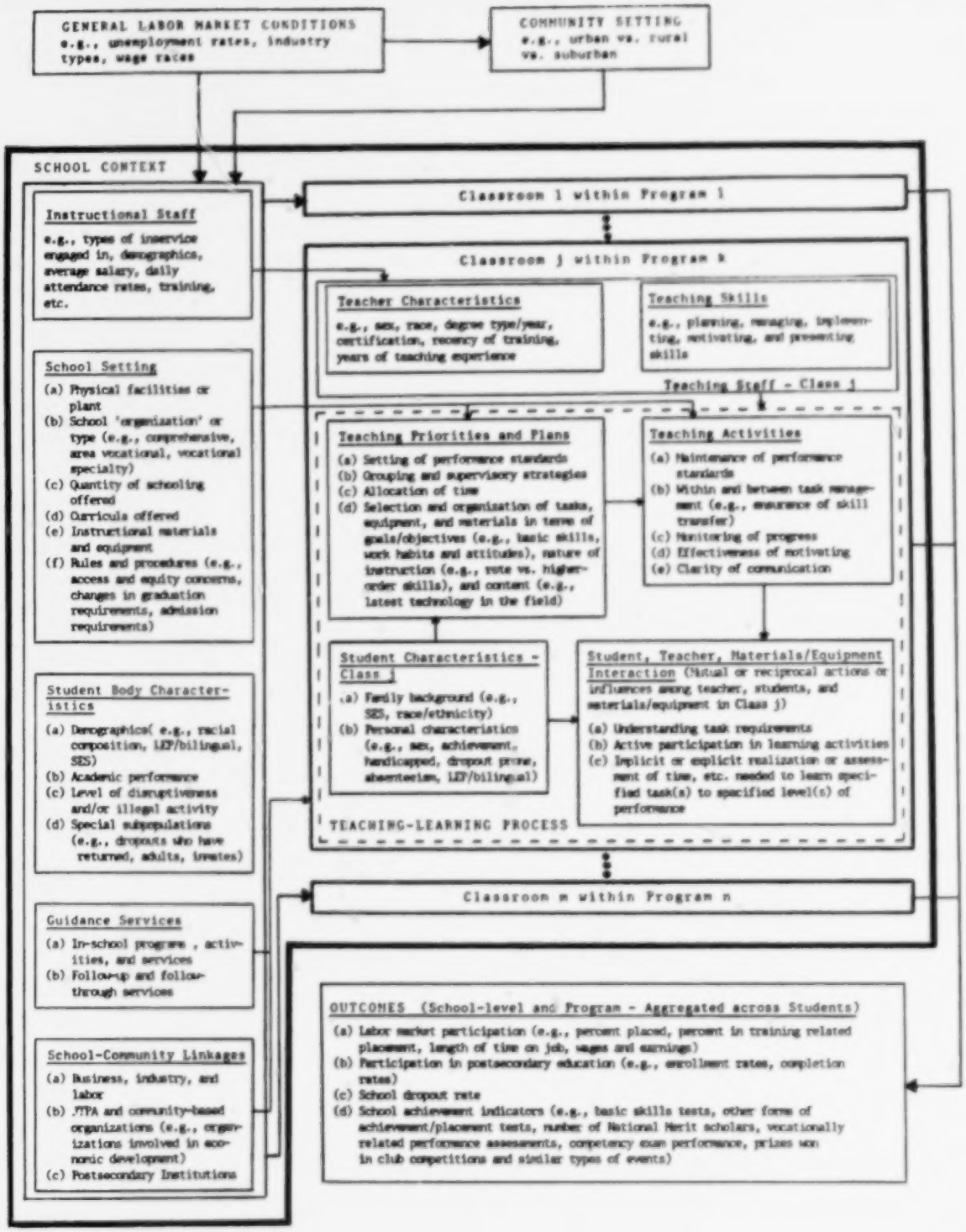

Figure 3. Framework* describing the setting within which vocational education operates.

*This framework was adapted from "Elements of Vocational Program Quality" (Campbell and Panzano 1985) and "Origins of Active Learning Time" (Warnischfeger and Wiley 1985) and its key elements are described in detail in those two documents.

The elements on the left of figure 3 represent other major components of the school context--the instructional staff, the school setting, student body characteristics, guidance services, and school-community linkages. Comparisons between these elements of the school context and the classroom-related elements could be used to describe how vocational education functions within the overall school. Data obtained from these various school context elements, when coupled with the classroom data, were used to evaluate further the second study objective, to identify the contextual factors that appear to affect instruction that occurs in vocational classrooms.

There are three important elements outside of the heavy black line in figure 3. These are the general labor market conditions, the community setting, and outcome data. Although no new data collection was conducted in these areas, information available in school files and published reports was of major interest. The data obtained relative to these elements was then combined with that secured via the classroom and school context elements to address the study's three objectives in additional detail.

To illustrate how the framework was used to define the operational context for the different policy issues, perhaps it would be helpful to trace a specific policy question through the framework. One policy question of particular concern to most vocational educators is the following:

> To what extent are basic skills (e.g., listening, writing, speaking, reading, and computation) enhanced and reinforced in vocational classrooms?

This policy concern is raised by P.L. 98-524, section 404, as a research priority to be addressed by the National Center. The press for excellence and subsequent debates have elicited claims of basic skills deficiencies among secondary school students. Other claims describe students in vocational education as not always having the necessary prerequisites for instruction in occupational tasks. The following research questions relate to subissues within this overall policy area:

- What kinds of activities are used in vocational classrooms to reinforce/enhance students' basic skills?
- Is the time spent on basic skills reinforcement and enhancement different in area versus comprehensive schools?
- What special techniques or arrangements are being used to improve the basic skills of at-risk students within vocational education classrooms?
- Are linkages being created with other nonvocational classrooms to better equip students for instruction in vocational education?

This study framework shows the teaching-learning process to be central to this investigation. A teacher's ability to plan and allocate time for her/his students is of paramount importance. Furthermore, the interaction between students and teacher-designed activities could be used to document the degree to which basic skills are being enhanced and reinforced in vocational classrooms.

During the course of the study we developed/used a classroom observation instrument to examine the teacher's objectives for all students. On that instrument diagnostic techniques for assessing individual differences were noted and specific instruction aimed

at improving basic skills was recorded. In addition, instruction-related episodes[1] involving reading, writing, speaking, and mathematics were described. Furthermore, questions about the level of basic skills instruction occurring in vocational classrooms were raised during interviews with both teachers and administrators. In fact, teachers were specifically asked if remedial instruction in basic reading and/or basic math was offered to the students in their classes who needed such assistance.

Responses to these types of questions and the recorded observations provided a picture of the basic skills instruction occurring in secondary vocational education. All types of schools were included--rural, suburban, urban; area vocational, vocational specialty, and comprehensive--so results could be summarized across types of schools as well.

Figure 4 summarizes the flow of ideas from the legislation, reform reports, and other sources to the policy issues/questions, through the study framework to the project instruments. As shown in that depiction, the framework filters the policy questions into relevant, operationally defined items in the respective project instruments.

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[1]Episodes are the mutual or reciprocal influences or actions among students, teachers, subject matter (content), and materials/equipment that occur in a specific context and involve a focus of attention which is constant and aimed toward the realization of a particular learning outcome (for example, changing the oil in an automobile or learning the names and functions of the parts of a milling machine).

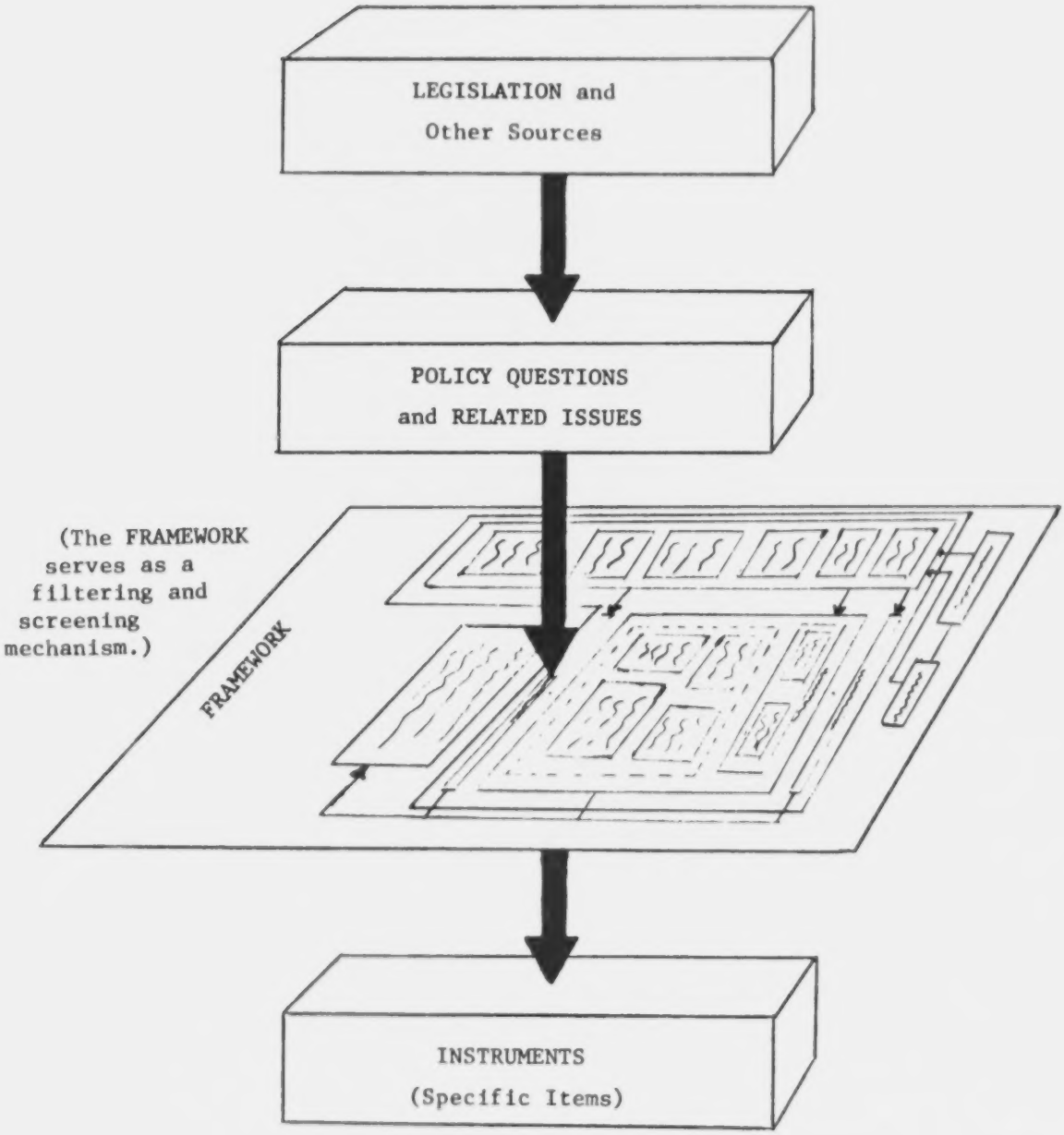


Figure 4. Overview of the role played by the study's conceptual framework.

Classrooms--the Study's Primary Unit of Analysis

A review of figure 3 shows very clearly that the primary unit of concern in the study was classrooms within schools. Research suggests that many instructional and social variables are usually embedded in the context defined by these critical administrative and organizational units. For example, Petronovich (1979) argued that to ignore the influence of the classroom is to ignore the fact that students' behaviors are (figure 4) dependent on facets of the common environment (context) within which those behaviors are learned and oftentimes occur. Cronbach (1976) noted the following three reasons why students' behaviors and responses in classroom settings cannot be viewed as independent of the context in which they occur:

- Classrooms differ in the average level of pupil track they exhibit (e.g., a typical classroom is likely to be limited to students of a given age and social class).
- Students in classrooms will be similar because of intended differences in the ways classrooms are treated (e.g., treatment variations such as curricular tracking and daily scheduling).
- Classrooms impose homogenation of students because of unintended treatments (e.g., room temperature, equipment failures).

Although these three categories do not exhaust the potential sources of classroom variability, they do serve to highlight the importance of different classroom effects. Furthermore, Cooper and Good (1983) argue that the available research (e.g., Good, Biddle, and Brophy 1975; Barr and Dreeban 1977) provides "both compelling logical reasons and empirical data to indicate that

classrooms have to be addressed as units if we are to understand the achievement of individual students," (p. 36) as well as the instructional strategies that helped lead to that achievement.

The unit of analysis employed in this study is unique. For example, in A Place Called School, Goodlad (1984) notes that although thousands of studies of various pieces of schools have been conducted, most of them seek to determine the effects of some classroom (or individualized) practice on students' achievement - students are typically the focus, and they are the unit of analysis in the vast majority of their research efforts. However, as indicated by the literature presented above, in practice, classrooms function as whole groups or units and as a result, they do not vary for individual students who are members of the class, and one value can be used to characterize the classroom as a whole. For instance, the number of students in a class is invariant across class members; a teacher's teaching experience does not vary among students in the class; and the teacher's average expectations for the students in a class can be used to characterize the class as a whole (Cooper and Good 1983). Since most education-related research typically focuses on students as the unit of analysis (both appropriately and inappropriately; see Cronbach 1976), we are conditioned to think and deal with variables related to that unit and not to classroom indices or variables (e.g., we would typically think about the sex of students found in a classroom but not the "relative gender" of the classroom, which would be defined by the proportion of males or females found in that classroom and could be used as a unit of

analysis or classification variable for between-classroom analyses). From a program improvement perspective, Cooper and Good (1983) argue that the student versus classroom distinction is critical when we try to translate research findings into concrete recommendations for educational practice. The validity of such recommendations is directly dependent upon the unit toward which they are directed, and they may be irrelevant or even detrimental if that unit designation is inappropriate.

METHODOLOGY: PARTICIPANTS, SURVEY INSTRUMENTS, OBSERVATION SYSTEM, AND RELATED PROCEDURES

Overview

The data collected during the study and reported in the following sections were obtained from a single cross-sectional survey of a number of respondents and/or data sources. Those different data sources included high school principals, counselors, teachers, students, school documents, census and Department of Labor reports, and field observers. This section gives a general description of those sources and how they were selected.

This section also presents descriptions of the various types of survey instruments used to secure data in each of the cooperating sites (i.e., high schools) as well as an overview of the classroom observation system that was used. That system is somewhat similar to the approaches employed by Stallings (1978); Goodlad, Sirotnik, and Overman (1979); and Franchak, Norton, and Desy (1985). The information presented includes how observers were trained, when and how observations occurred, what was observed, as well as a description of the recorded behaviors and related judgements.

Sample Design and Implementation

As indicated in the objectives and related conceptual framework described earlier, the primary focus of the study was secondary school classrooms, particularly vocational classrooms, and the contexts (i.e., schools and communities) within which they function. Given that focus, a three-stage sampling design was

used to identify the required sample of classrooms. In that design--

- states were the first stage units,
- schools within states were the second stage units, and
- classrooms within schools were the third stage units.

In the materials that follow, details are provided regarding each of those stages in the overall design.

Stage One--States

At this stage of the sampling process, a geographically stratified sample of states was selected. The strata used were the eight regions of the country as defined by the National Center for Education Statistics (1985). Table 2 provides several types of summary data related to these eight regions and their respective states. Those data show some of the variations that exist among the designated regions and related states with regard to the student populations they serve and the fiscal resources they devote to education. Such variations reflect some of the diversity that exists among states with regard to their educational systems.

Operationally, three states were selected at random from each stratum or region for inclusion in the required sample. As noted at the bottom of table 2, during the actual selection process, the District of Columbia was treated as a state and Alaska and Hawaii were omitted from consideration. The 24 states identified for the sample are indicated in the table with an

TABLE 2

PRELIMINARY DATA - REGIONS AND STATES

Regions* and States	Percent Children 5-17 in Poverty (1980)	Percent Handicapped Children (1984)	Percent LEP Children (1980)	Percent Minority Enrollment (1982)	Overall Fiscal Effort (1982-83)	Estimated Average Teacher Salary (1985)	Education Expenditures as Percent of Income per Capita (1984)
UNITED STATES	18.3	10.8	9.6	26.7	253.5	23,582	24.8
NEW ENGLAND	12.6	12.6	3.1	9.0	264	21,977	26.0
Connecticut	10.4	13.7	3.1	23.0	241	24,468	24.3
Maine	18.1	13.9	3.1	1.2	259	18,329	25.0
Massachusetts**	12.3	13.9	3.0	15.4	267	24,110	24.3
New Hampshire**	8.9	9.6	3.1	1.8	223	18,577	22.6
Rhode Island	12.6	13.6	4.3	11.7	289	27,384	30.7
Vermont	13.0	10.9	2.2	1.1	302	18,996	29.1
MIDEAST	17.9	12.4	5.1	43.7	278	25,874	29.5
Delaware**	14.6	16.4	2.4	29.0	272	22,990	28.1
District of Columbia**	36.3	8.1	2.3	96.4	228	28,621	27.9
Maryland**	11.9	13.3	2.2	33.6	242	25,861	26.7
New Jersey	13.3	14.4	6.3	37.7	290	25,125	29.0
New York	17.9	10.6	14.3	42.9	331	28,213	35.7
Pennsylvania**	13.2	11.3	3.1	22.3	305	24,435	39.6
GREAT LAKES	11.9	10.7	2.1	24.5	251	24,992	25.6
Illinois	14.1	13.9	3.9	39.8	212	25,829	23.9
Indiana**	11.0	10.3	2.2	17.3	237	22,853	23.3
Michigan	12.4	9.1	1.4	29.1	276	28,401	28.6
Ohio**	12.2	11.0	1.9	22.3	247	23,200	24.1
Wisconsin**	9.6	9.3	.9	14.2	283	24,577	28.2
PLAINS	20.4	10.9	1.5	11.4	259	20,750	24.9
Iowa	10.8	11.4	1.9	6.0	272	20,934	26.9
Kansas**	10.7	10.6	1.8	17.2	256	21,121	24.8
Minnesota	9.3	11.2	1.2	7.6	275	25,450	25.6
Missouri**	14.0	12.3	.8	20.7	221	20,452	22.6
Nebraska**	11.6	11.4	2.0	12.3	259	19,848	25.9
North Dakota	14.0	9.9	1.8	4.5	273	20,090	24.5
South Dakota	19.4	9.6	1.2	11.4	258	17,356	24.3
SOUTHEAST	20.4	11.3	NA(2.3)	31.7	210	19,822	22.7
Alabama	23.1	11.7	(NA)	37.0	214	20,209	20.6
Arkansas	22.7	11.3	(NA)	30.2	192	18,696	23.5
Florida	17.7	10.6	3.9	32.0	248	20,836	23.0
Georgia	3.3	10.4	1.0	37.2	163	20,610	20.4
Kentucky	21.2	11.5	(NA)	12.2	189	20,225	22.4
Louisiana	23.1	10.9	3.0	43.4	246	19,470	24.7
Mississippi**	30.4	11.0	(NA)	51.9	187	15,971	23.7
North Carolina**	17.8	11.2	(NA)	32.4	201	20,691	21.2
South Carolina	30.7	12.0	(NA)	42.0	226	19,971	21.6
Tennessee**	30.2	12.6	(NA)	28.8	178	20,080	20.2
Virginia	14.4	10.6	1.3	28.2	226	21,536	21.7
West Virginia	10.2	11.3	(NA)	4.9	253	19,563	29.6
SOUTHWEST	15.8	10.4	12.3	39.8	247	21,766	24.6
Arizona**	15.8	10.3	13.0	29.8	221	23,380	23.2
New Mexico**	21.7	10.1	23.4	57.2	293	22,064	28.5
Oklahoma	15.1	11.1	2.6	24.3	252	19,020	24.7
Texas**	10.4	9.9	10.0	48.0	220	22,600	22.1
ROCKY MOUNTAINS	11.0	9.9	3.1	11.7	303	22,752	27.7
Colorado**	10.8	8.4	6.3	23.1	272	24,454	24.4
Idaho	13.4	8.7	2.7	6.6	205	20,033	21.6
Montana**	13.7	10.1	2.0	12.3	337	21,705	34.2
Utah	9.8	10.9	2.2	7.6	258	21,170	21.1
Wyoming**	7.3	11.4	2.1	8.7	442	26,398	37.0
FAR WEST	11.2	9.3	6.0	22.3	264	24,980	24.9
California**	14.2	8.6	14.1	45.9	199	27,410	20.5
Nevada	9.4	9.0	3.6	19.1	197	22,520	20.2
Oregon**	10.8	10.3	3.1	9.3	311	24,378	31.7
Washington**	10.3	9.1	3.2	15.0	274	25,610	27.1

* The regional estimates noted represent unweighted averages for their respective states. Also, for the purposes of this study, the District of Columbia was treated as a state and Alaska and Hawaii were omitted.
**States included in the study sample.

asterisk (*). Of the states selected for the sample, all 24 agreed to participate.

Stage Two--Schools within States

The states identified in stage one are actually clusters of different types of schools. For the purposes of this study, interest focused upon public secondary schools that offered two or more federally supported vocational education programs. Generally, such schools can be grouped into the following three types:

- Comprehensive--a general high school offering both vocational and general academic subjects, but in which the majority of students are not enrolled in vocational programs
- Vocational--a specialized school offering full-time programs of vocational and academic subjects and in which the majority of the students are enrolled in vocational programs
- Area vocational--a shared-time facility that offers vocational instruction to students from throughout a district/region; students receive their required academic instruction in a regular (e.g., comprehensive) high school

An earlier study (Westat and Institutional Development Associates 1978) suggests that states can be divided into five groups with each group being comprised of a different combination of the three types of schools. Those groups and the numbers of sampled states falling in each one are summarized in table 3. The discrepancies shown in that table between the numbers reported by Westat and Institutional Development Associates and the numbers found in the study sample most likely reflect changes in the governance and delivery of secondary vocational education that

TABLE 3

TYPES OF SCHOOLS FOUND IN DIFFERENT GROUPS OF STATES

GROUPS OF STATES (Defined by School Types)	NUMBER OF STATES IN EACH GROUP (A) Original Estimates	(B) Study Sample
• States with comprehensive, vocational, and area vocational schools	4	11
• States with comprehensive and vocational schools	4	4
• States with comprehensive and area vocational schools	35	7
• States with only comprehensive schools	5	2
• States with only area vocational schools	2	0

NOTE: The original estimates are based on information provided by Westat and Institutional Development Associates. It should also be remembered that the District of Columbia was treated as a state, whereas Alaska and Hawaii were omitted.

occurred during the 8-year period from 1978 to 1986. Those changes meant that no accurate estimates of the numbers of different types of schools by states, particularly the numbers of vocational and area vocational schools, were available. Therefore, the original sampling strategy, which relied directly upon the results of the study by Westat and Institutional Development Associates, had to be modified. The problem was further compounded by the fact that, given time and cost constraints, it was not feasible to obtain separate sampling frames by states of each school type (i.e., state-level frames for

comprehensive schools, vocational schools, and area vocational schools).

It was at this point that the state directors of vocational education in each of the sampled states were contacted, and their cooperation and assistance sought. At the same time, each state director was sent a preliminary listing of schools such as that outlined in figure 5. These different listings were generated via two sampling frames. The first was defined by the universe of comprehensive high schools (by state) contained in the 1987 edition of Patterson's American Education (Moody 1986). The second frame consisted of the universe of vocational and area vocational schools contained in that same listing as well as the unique secondary vocational schools contained in the Electronic Directory of Education (DIALOG Information Services, Inc. 1986). That is, any secondary vocational school named in either of these sources was made part of the second or composite sampling frame.

The listings sent to the vocational education directors consisted of an oversampling of schools from the composite sampling frames available for their respective states. In each of those frames the population of interest was a subpopulation of the population represented by the overall frame, and it was not known whether a particular element belonged to the desired subpopulation until after it was actually sampled. The specific approach used is outlined by Mendenhal, Ott, and Scheaffer (1971, pp. 204-205). It involved selecting random samples of comprehensive schools and up to 15 vocational and/or area vocational schools (depending on the numbers of such schools found in the state). The differences

NAME & PHONE NUMBER OF

CONTACT PERSON FOR THE STATE:_____ ( )_____

SCHOOL NAME AND ADDRESS + CONTACT PERSON (PHONE NUMBER)	(1) TYPE OF SCHOOL* C=Comprehensive V=Vocational AV=Area Vocational (Circle one per school)	(2) VOCATIONAL PROGRAMS OFFERED A=Agricultural B=Business & Office; H=Health HE=Vocational Home Ec; M=Marketing & DE; T=Trade & Industry (Tech) IA=Industrial Arts None=No Programs (Circle all that apply)	(3) SETTING R=rural S=suburban U=urban (Circle one per school)	(4) TOTAL ENROLLMENT Per School In: (a) 1984/1985	(b) 1985/1986
	C V AV	A B H HE M T IA None	R S U	_____	_____
	C V AV	A B H HE M T IA None	R S U	_____	_____
	C V AV	A B H HE M T IA None	R S U	_____	_____

*Use the following definitions when classifying schools:

Comprehensive: A general high school offering both vocational and general academic subjects, but in which the majority of students are not enrolled in vocational programs.

Vocational: Specialized school offering full-time programs of vocational and academic subjects and in which the majority of students are enrolled in vocational programs.

Area Vocational: Shared-time facility that offers vocational instruction to students from throughout a district or region; students receive academic instruction in a regular high school.

Figure 5 State listing of potential sample of schools

in these subsample sizes (i.e., 9 vs. up to 15) reflect the degree of uncertainty that existed with regard to the numbers of vocational and area vocational schools located within the sampled states.

Based upon the information obtained from the listings shown in figure 5, particularly the verification of school type and setting in which each school is located, the first school listed that offered at least two federally funded vocational programs and fell within one of the following categories (if applicable for the state under consideration) was selected for inclusion in the project sample:

- Comprehensive school--urban setting
- Comprehensive school--suburban setting
- Comprehensive school--rural setting
- Vocational specialty school--urban setting
- Vocational specialty school--suburban setting
- Vocational specialty school--rural setting
- Area vocational school--urban setting
- Area vocational school--suburban setting and
- Area vocational school--rural setting

As indicated earlier in table 3, there were some states in which all these categories of schools did not exist such as states with only comprehensive and area vocational schools. In addition, in some states, certain types of schools were not found in certain settings. For example, in several of the cooperating states, vocational specialty schools were not found in rural settings. Given these different conditions and constraints, a total of 120

schools were selected for the final sample. A summary of those schools in terms of their types and settings is presented in table 4.

The basic school selection strategy described above was used in all but four of the sampled states. In those four instances the states provided what they viewed as more current frames of the schools in their respective states, and their listings of schools were subsequently drawn from those "new" sampling frames. In addition, in a total of eight cases, the schools originally selected had to be replaced by alternate schools. In four of those cases, the schools refused to participate and gave little explanation for their decision. In the other four cases there were extenuating circumstances that affected their decisions (e.g., they no longer offered federally supported vocational programs, or they were undergoing accreditation reviews during the same timeframe and felt the two sets of requirements would cause too much of a problem for their students and staff). In general, an effort was made to ensure that each alternate school was the next school in the applicable state listing that offered at least two federally funded vocational programs and fell in the same category (e.g., comprehensive--urban and area vocational--rural--see table 4) as the school being replaced. Overall, approximately 7 percent of the original sample of schools had to be replaced by alternates.

The actual sample of 120 schools identified using the approach outlined reflects an oversampling of urban schools (and urban students as well). The magnitude of that oversampling is

TABLE 4

SUMMARY OF SAMPLED SCHOOLS BY REGION, TYPE, AND SETTING

REGIONS	*TYPES OF SCHOOLS AND SETTINGS:									TOTAL PER REGION
	C-U	C-S	C-R	V-U	V-S	V-R	AV-U	AV-S	AV-R	
1. New England	0	3	1	1	1	1	3	0	2	12
2. Mideast	0	3	4	2	2	0	1	2	2	16
3. Great Lakes	3	2	4	1	0	1	2	2	1	16
4. Plains	3	1	4	0	0	0	3	0	3	14
5. Southeast	5	2	2	0	0	0	2	0	6	17
6. Southwest	3	2	3	3	3	1	0	0	1	16
7. Rocky Mountains	2	3	4	0	0	0	1	1	1	12
8. Far West	4	3	2	1	2	0	4	1	0	17
TOTALS PER TYPE OF SCHOOL AND SETTING	20	19	24	8	8	3	15	6	17	120
TOTALS PER TYPE OF SCHOOL	(a) Comprehensive--63 (b) Vocational--19 (c) Area Vocational--38									
TOTALS PER SETTING	(a) Urban--43 (b) Suburban--33 (C) Rural--44									

NOTE: The designations for the types of schools and settings are as follows:

C-U -- Comprehensive school--urban setting

C-S -- Comprehensive school--suburban setting

C-R -- Comprehensive school--rural setting

V-U -- Vocational specialty school--urban setting

V-S -- Vocational specialty school--suburban setting

V-R -- Vocational specialty school--rural setting

AV-U -- Area vocational school--urban setting

AV-S -- Area vocational school--suburban setting and

AV-R -- Area vocational school--rural setting

reflected via the data summarized in table 5. Oversampling also occurred in relation to vocational speciality and area vocational schools. That is, the combined proportion of such schools in the sample, .48, is substantially greater than the corresponding proportion in the population of all public secondary schools (estimated to be .06). This oversampling reflects the relative emphasis being placed on such institutions.

TABLE 5

COMPARISON OF THE SAMPLE OF SCHOOLS WITH THE UNIVERSE OF SCHOOLS BY LEVEL OF URBANIZATION

URBANIZATION LEVEL		PERCENTAGES BY LEVELS FOR THE (a) Universe	(b) Sample
• Urban	Schools	12%	36%
	(Students)	(23%)	(42%)
• Suburban	Schools	34%	27%
	(Students)	(47%)	(35%)
• Rural	Schools	54%	37%
	(Students)	(30%)	(23%)
TOTAL	Schools	100%	100%
	(Students)	(100%)	(100%)

NOTE: The universe of schools referred to in this table is that described by Frankel, Kohnke, Buonanno, and Tourangeau (1981), which was employed by the National Opinion Research Center in its High School and Beyond Survey. Only the public school subpopulations from that universe were used to generate the percentages reported above.

Stage Three--Classrooms within Schools

Once the required schools were identified, it was necessary to select the specific classrooms within each of those schools that would be included in the project sample. For the purposes of

this selection process, the classrooms were divided into two groups--vocational and nonvocational. The different procedures used to select the required samples within each of these groups are summarized in exhibits 1 and 2, respectively. Using these procedures, a sample of up-to-six vocational classrooms in each school was selected first, followed by a sample of two non-vocational (general education) classrooms.

The application of the designated procedures yielded a total sample of 893 classrooms. A brief description of that total sample, in terms of the types of classrooms represented as well as the types of schools and settings in which they were located, is presented in table 6.

Sampling Limitations

The identification of an unfettered sample that represents all the different kinds of schools and classrooms across the United States--a random sample--is difficult, if not impossible, to accomplish. Ideally, the identification of such a sample would require that frames be available for each of the subpopulations of schools and classrooms of the types to be selected for study. (That is, comprehensive--urban schools, comprehensive--suburban schools, . . ., area vocational--rural schools [see table 4] as well as agriculture classes in comprehensive--urban schools, business and office classes in comprehensive--urban schools, . . ., other [nonvocational) classes in area vocational--rural [feeder] schools [see table 6]). Given the time frame and resources available, it was not possible to secure and/or generate

EXHIBIT 1

SELECTION AND SCHEDULING
OF VOCATIONAL COURSES FOR OBSERVATIONS

1. Verify the service areas in which vocational programs are offered (i.e., agriculture, business and office, health, occupational home economics, marketing and distributive education, and trade and industry (including technical)) in the school. You will need to visit at least one program in each service area represented.

2. Find out how many specific programs are offered in each school-related service area.

Agriculture	Business & Office	Health	Marketing & DE	Occupational Home Ec	Trade & Industry
_____	_____	_____	_____	_____	_____

3. Randomly pick one program from among those offered in each service area for observation.

4. If the program you selected in step 3 is offered by (a) more than 1 instructor, (b) more than one cohort or class of students, or (c) both (a) and (b), then randomly select the instructor whose class you will observe, the specific cohort or class of students you will observe, or the combination of instructor and specific cohort or class you will observe, whichever is applicable.

5. Through consultation with the principal or his/her designee (use your SITE SCHEDULE) develop a schedule (at least a tentative schedule) of the times when it would be "best" to observe the selected classes. Remember, you will need to observe each selected class at two points during the week for a period/1 hour each--in area vocational schools (AVS). Where you need to travel to one or two feeder schools, travel time needs to be taken into account.

6. If you are visiting a school in which fewer than six service areas are represented, but a number of specific programs are offered in those service areas represented, then you should repeat steps 3, 4, and 5 and identify/schedule an additional one-four classes for observations. (In most cases a maximum of six vocational classes should be scheduled for observations.)

   In some schools the number of specific vocational program offerings is quite small, and steps 3, 4, and 5 may cover all those offerings. In such cases, if industrial arts and/or consumer and homemaking education courses are offered, you may choose to conduct observations of one or both of those programs. In either case use a random selection rule to identify the specific class(es) to be visited.

   During the week you should work to gain access to and observe a total of six vocational classes or six vocational and industrial arts/consumer-homemaking education classes.

EXHIBIT 2

SELECTION AND SCHEDULING OF NONVOCATIONAL
(ACADEMIC) COURSES FOR OBSERVATIONS

---

1. If the particular school you are visiting offers vocational programs to students in grades 9-12, 10-12, 11-12, or 12 only, then the sample of two nonvocational (academic) courses (and their related classes) that you select should include students at the same grade levels.

2. If the school you are visiting is a comprehensive school, a vocational (specialty) school, or an area vocational school in which students can obtain the basic academic credits required for graduation (e.g., physical education, health, English, math, history, science, or social studies), then you should proceed as follows:

   (a) Randomly select two periods during the school week that will not conflict with your scheduled observations of vocational classes.

   (b) Find out from the principal (or his/her designee) what nonvocational courses are "normally" taken by vocational students (i.e., not college prep courses or industrial arts and consumer-homemaking education) and are offered during each of the selected periods. Next, randomly select one of those courses (and the related class) per period for your observations.

   If it is not possible to employ the procedure outlined, you will need to use your professional judgement to help ensure that the courses/classes selected are "average" or "representative" for the school and neither the best nor poorest academic courses normally taken by vocational students.

3. If the school you are visiting is an area vocational school (AVS) in which the students cannot obtain the basic academic credits required for high school graduation, then you should proceed as follows:

   (a) Identify the feeder schools you will need to visit.

      (1) In most cases there is one district (with one or more schools) from which the largest proportion of students in the AVS are drawn. Visit that district. (If the district has more than one school that sends students to the AVS, randomly select the specific school within the district to visit.) Then, randomly select the second school you will visit from the remaining group of feeder schools that you can reach by car in a "reasonable" length of time (e.g., an hour or less).

      (2) If the AVS does not serve a "dominant" district, then randomly sample the two feeder schools from among those served that can be reached by car in a "reasonable" length of time.

   (b) Secure the names, phone numbers, and addresses of the principals of the selected feeder schools and make arrangements to contact them and schedule your visits. The AVS principal (director) may want to assist you in making these arrangements.

   (c) Repeat steps 2a and 2b described earlier in relation to each of the selected schools; remember that you will need to observe one class per school.

TABLE 6

DESCRIPTIVE SUMMARY OF CLASSROOM SAMPLE

TYPE OF SCHOOL AND SETTING	TYPES OF CLASSROOMS													TOTAL PER TYPE OF SCHOOL AND SETTING
	(a) Vocational									(b) Nonvocational				
	Ag	B&O	H	HE	M	T&I	CH	IA	C	Eng.	Math	Sci.	Other	
Comprehensive--Urban	6	25	2	7	14	33	8	5	3	11	6	11	19	150
Comprehensive--Suburban	4	27	3	6	10	30	15	4	6	6	6	8	16	141
Comprehensive--Rural	17	30	4	11	9	32	14	8	5	10	6	10	24	180
Vocational--Urban	0	6	5	4	3	18	1	0	0	4	3	4	7	55
Vocational--Suburban	1	7	5	5	3	24	1	0	0	5	1	6	5	63
Vocational--Rural	2	2	1	3	1	8	0	0	1	1	1	0	3	23
Area Vocational--Urban	7	15	10	13	12	30	5	0	0	8	5	2	14	121
Area Vocational--Suburban	3	4	4	3	2	15	0	0	0	2	1	2	8	44
Area Vocational--Rural	8	16	8	5	8	34	6	0	2	9	4	4	12	116
TOTAL PER TYPE OF CLASSROOM	48	132	42	57	62	224	50	17	17	56	33	47	108	893
TOTAL PER VOCATIONAL AND NONVOCATIONAL	(a) Vocational--649									(b) Nonvocational--244				
TOTAL PER SCHOOL TYPE	Comprehensive = 471									Area Vocational = 281				
	Vocational Specialty = 141													
TOTAL PER SETTING	Urban = 326					Suburban = 248				Rural = 319				

NOTE: The designations for the different types of classrooms are as follows:

AG - Agriculture
B&O - Business and Office
H - Health
HE - Occupational Home Economics
M - Marketing and Distributive Education
T&I - Trade and Industry
CH - Consumer and Homemaker Education,
IA - Industrial Arts
C - Career Exploration/COOP/Work Experience
Eng. - English and Language Arts
Math - Mathematics
Sci. - Science
Other - Other subjects (e.g., social studies)

these frames. Furthermore, experience suggests that such frames are somewhat fluid and change over relatively short periods of time (e.g., from one school year to the next). Despite the fact that the latest published school listings available were employed and were then confirmed, in part, by the cooperating state departments of education, the status of a considerable number of schools originally sampled in the study changed prior to their actually being visited (e.g., vocational programs were dropped or altered and some schools were consolidated with others). These changes, as well as the voluntary nature of the study, meant that approximately 7 percent of the schools originally identified for the sample had to be replaced by alternates (using the procedures described earlier). Also, the sampling design used is limited in that the relative numbers of different types of schools and classrooms were not estimated and, hence, are not available for use in weighting the resulting data when generating overall population estimates.

Within a rigorous sampling context, the preceding constraints and conditions militate against claiming that the schools and related classrooms selected from the study's sampling design constitute a nationally representative sample. Generally speaking, however, that sample was selected in an unbiased (random) manner, which has implications for its national representativeness. In addition, a review of tables 4 and 6 reflects the wide diversity existing among schools and classrooms (e.g., small rural to large urban; predominantly white to predominantly minority; suburban "elite" to both urban and rural

"poor"; and "exemplary" vs. "average" vs. "poor" in terms of perceived quality of program offerings, both vocational and nonvocational). Also, the study involved comparisons among types of schools (e.g., comprehensive vs. vocational vs. area vocational) and types of classrooms (e.g., vocational vs. nonvocational) and not just the estimation of different descriptive parameters related to those populations. The lack of rigorously estimated sampling weights should not have a major negative impact on the results of those comparisons. Furthermore, it is the largest set of detailed data collected to date on vocational classrooms and the contexts (schools) within which they function. Although, in a strict sense, one cannot generalize from this sample to all secondary schools that offer vocational education programs and their related classrooms, the extensive information compiled should serve as a valid basis for raising a variety of questions and evaluating related insights into the process and content of instruction in vocational classrooms as well as how these factors are influenced by the contexts or organizations in which those classrooms are situated.

Respondents/Data Sources

Once the required sample of classrooms was identified, the related respondents or data sources (e.g., principals, teachers, and students) were also determined, either partially or wholly. Those different respondent groups, as well as the cases where

additional sampling decisions were needed during their identification, are described in greater detail in the materials that follow.

In all, eight respondent groups or data sources were employed during the study. A listing of those data sources, along with a brief description of how each was determined or identified can be found in table 7. Also included in that table is a summary of the numbers of respondents in each group who were identified to serve as potential sources for project-related data.

Survey Instruments

During the actual conduct of the study, a variety of different questionnaires and related survey instruments were developed and used to secure data from the designated respondents. Those different instruments are directly related to the various policy concerns/questions and the conceptual framework described in chapter 1. Figure 6, which is quite similar to figure 4 presented earlier, graphically depicts the flow of ideas from the legislation and other statements related to the role of vocational education in the secondary school, through the policy-questions/issues and conceptual framework to the various instruments.

As shown in figure 6, the study's conceptual framework was used to "filter" the policy questions and issues, and to define the different data collection procedures and specific items relevant to the various survey instruments. In table 8, a selected number of the policy questions/issues to be addressed during the study are related to the major elements of the

TABLE 7

SUMMARY OF PROJECT-RELATED RESPONDENT GROUPS/DATA SOURCES

RESPONDENT OR DATA SOURCE	HOW SELECTED/IDENTIFIED	NUMBER IDENTIFIED
• Principals	- Determined via the schools selected	120
• Counselors	- One was selected per school. If more than one counselor worked in a school, then (a) the lead counselor was selected, if such a designation existed or (b) one counselor was randomly selected from among those who worked at the school	120
• Teachers/ Observed	- These teachers were the ones whose classrooms were identified during stage three of the sampling design. Once those classrooms were identified this sample of teachers was also determined.	893
• Teachers/ Schoolwide Sample	- These teachers were selected from the total pool of teachers in each sampled school using the procedures outlined in exhibit 3. As indicated in that exhibit, individual teachers in the observed classrooms may or may not have been included in this sample.	2747
• Students	- In each of the classes identified during stage three of the sampling design, a sample of five-six students was to be identified. Those students were selected by the study's field personnel, who were instructed to select students who represented a mix of ethnic and handicapping conditions.	4389
• Classroom Materials/ School Documents	- Course syllabi and related curricular descriptions were secured and reviewed by the study's field personnel for the classrooms identified during stage three of the sampling design.	893
• School Reports and Related Documents	- The study's field personnel were instructed to secure and review copies of available reports and other documents that contained descriptive, outcome-related information regarding the school (e.g., information such as dropout rates, average achievement test scores, and job placement rates).	120
• Census and Department of Labor Data Summaries	- These sources were used to secure information regarding the community context in which each sample school was located (e.g., unemployment rates, population demographics, and earnings level). Those data for each school were accessed via the school's county code, SMSA code, state, etc., as applicable.	120

EXHIBIT 3

SELECTION OF SCHOOLWIDE SAMPLE OF TEACHERS

---

1. How many teachers (T) are there in the school?

   T = _____

2. Secure a listing of those teachers and number them sequentially (i.e., from 1 to T).

3. Divide T by 20, i.e., $\frac{Q}{20/T} + R$, where

   Q = integer portion of quotient and R = remainder

   $$\frac{\_\_\_\_\_}{20/\_\_\_\_\_} = Q + R = \_\_\_\_\_$$

4. (a) If (Q=0) or (Q=1 and R≤2), then distribute questionnaires to all the teachers on the list. (Go to step 7.)

   (b) Otherwise (i.e., if (Q=1 and R≥3) or (Q≥2 and R≥0)), add Q and R together---find the value Q+R

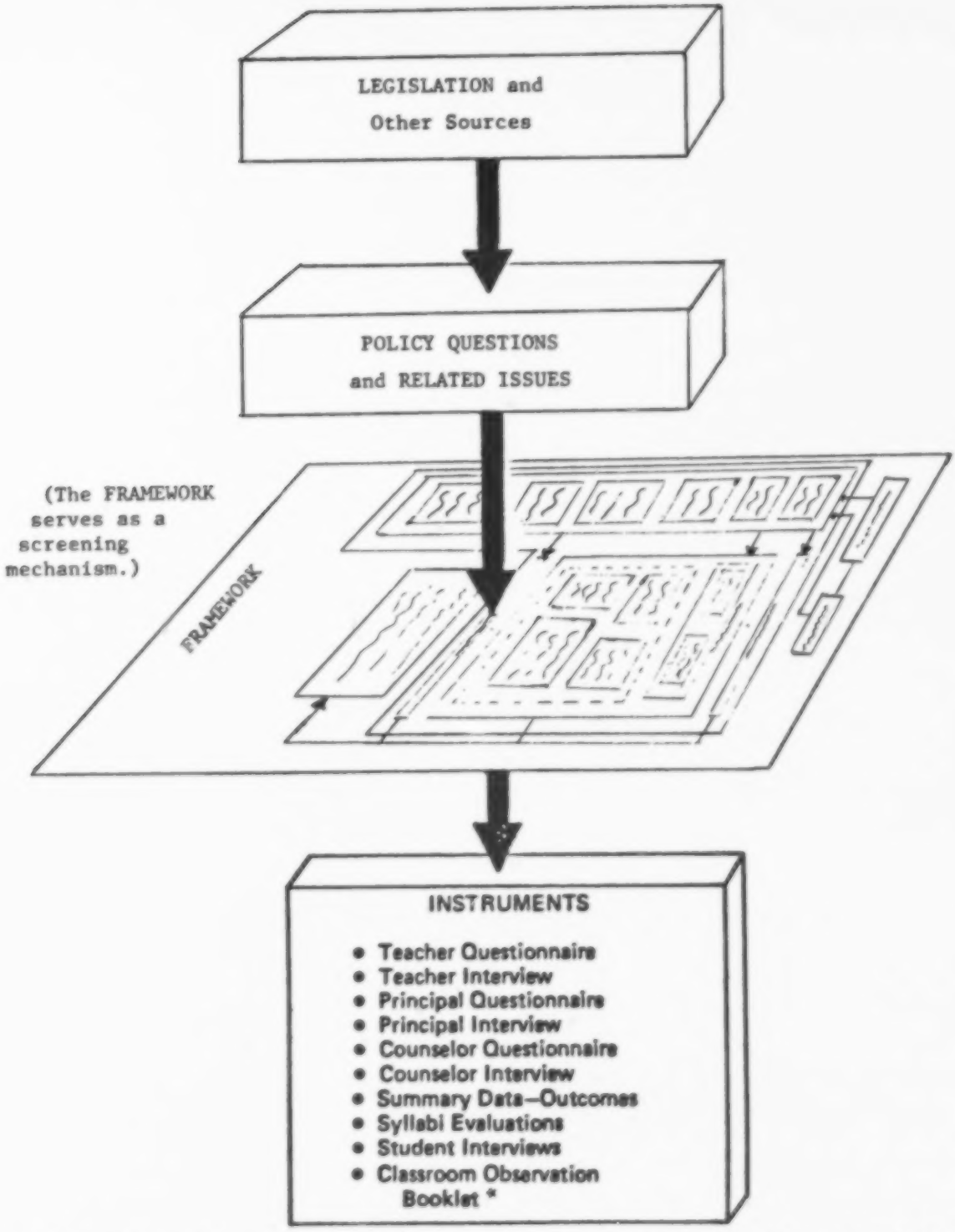
   Q + R = _____

5. Select a number at random from 1 to Q+R (using the random numbers table). This number is your <u>starting point</u> and is the ID# of the first teacher on your list who is to receive a questionnaire.

   STARTING POINT = _____

6. Proceed from your <u>starting point</u> and select every Qth teacher thereafter on your list until a sample of size 20 is identified. (For example, if your STARTING POINT is 5 and Q=2, you would include in your sample the 5th, 7th, 9th, . . ., through the 43rd teacher on your list in your sample.

7. If by chance any of the teachers selected are teachers in the subgroup whose classes are to be observed, make sure you do not send them two questionnaires. (This is <u>very</u> likely to occur in very small schools.)



* A detailed description of the observational materials/procedures used during the study, including this booklet, is presented in the ensuing section, "The Classroom Observation System."

Figure 6. Heuristic model describing the approach used when developing the study instruments.

TABLE 8

CORRESPONDENCES AMONG THE AREAS OF EMPHASIS, RELATED POLICY QUESTIONS/ISSUES AND ELEMENTS OF THE STUDY'S CONCEPTUAL FRAMEWORK

AREAS OF EMPHASIS	SELECTED POLICY QUESTIONS OR ISSUES	RELATED FRAMEWORK ELEMENTS
Basic Skills	1. To what extent are basic skills (e.g., listening, writing, speaking, and computation) enhanced and reinforced in vocational classrooms?	- Teaching Priorities and Plans; Student, Teacher, Materials/Equipment Interaction
At-Risk Students (including LEP, potential dropouts, handicapped, disadvantaged, single parents, individuals in non-traditional programs for their sex)	2. What is being done in secondary schools that offer vocational programs to identify, track, and address the unique needs of dropout-prone and out-of-school youth?	- Rules and Procedures; Teaching-Learning Process
	3. Are IEP's routinely developed for handicapped students, communicated with key staff, and used to guide the students' vocational training?	- Guidance Services; Student Characteristics; Teaching-Learning Process
Access and Equity	4. Are changes in high school entry and graduation requirements influencing vocational enrollments?	- Rules and Procedures; Student Body Characteristics
	5. Do all students have equal access to vocational programs?	- Student Body Characteristics; Student Characteristics
Transferable Skills	6. To what degree are higher-order cognitive skills such as problem-solving taught in vocational classrooms?	- Teaching Priorities and Plans; Student Teacher, Materials/Equipment Interaction
	7. How much emphasis in vocational programs is placed upon fostering students' employability skills and work habits?	- Teaching Priorities and Plans; Student, Teacher, Materials/Equipment Interaction
Career Guidance	8. Do students in vocational programs have access to counselors, career-related resources, etc.?	- School Setting (Guidance Services)
	9. Are placement and follow-through services provided for vocational students?	- Guidance Services; Outcomes
JTPA/CBO and Vocational Education Linkages	10. What linkages exist between secondary schools and various community-based organizations (e.g., Private Industry Councils (PIC's))?	- School-Community Linkages
Institutional Characteristics	11. How are institutional type and size related to numbers, kinds, and quality of vocational program offerings?	- School Organization/Type; Curricula Offered; Teaching Priorities and Plans; Outcomes
Teacher Education	12. What kinds of professional improvement opportunities are afforded vocational teachers?	- Instructional Staff; Teacher Characteristics
	13. Are vocational teachers prepared to provide critical support services to LEP, handicapped, and other at-risk students?	- Instructional Staff; Teacher Characteristics
Private Sector - Vocational Education Linkages	14. Do industry and labor representative influence vocational education programming?	- Curricula Offered; School-Community Linkages
	15. How are private sector linkages affected by cooperative programs and other work-study programs?	- Curricula Offered; School-Community Linkages
Economic Development	16. Are personnel involved in the delivery of vocational programs directly involved in community-wide economic development activities?	- School-Community Linkages
Currentness of Vocational Curricula, Equipment, Etc.	17. Are secondary vocational curricula competency based?	- Teaching-Learning Process
	18. Are state-of-the-art materials and equipment being used in secondary vocational programs?	- Instructional Materials and Equipment; Teaching-Learning Process
Postsecondary	19. To what extent are vocational students prepared to meet entry requirements of postsecondary institutions, to familiarize them with admissions procedures, and to acquaint them with postsecondary alternatives available in their area?	- Teaching-Learning Process
	20. What kinds of articulation linkages exist between vocational programs at the secondary and postsecondary levels (e.g., 2+2 programs, shared staff)?	- School-Community Linkages
Adults and Inmates	21. To what extent are secondary vocational education programs and facilities used to meet the needs of adults and inmates?	- School-Community Linkages; Student Body Characteristics

conceptual framework (see figure 3). Since the designated policy questions/issues are expressed at variant levels of specificity, they impact upon differing numbers of framework elements, and they are addressed in the study's instruments by different numbers and types of items. Also, the items across different respondent instruments were developed so as to be collateral and supportive in nature, such as, where data were secured from several respondents or sources.

Descriptions of Specific Survey Instruments

As indicated in figure 6, a total of nine survey instruments were employed during the study. Those instruments included observations guidelines/procedures, questionnaires, interview protocols, and specific standardized forms for summarizing relevant data from school and classroom reports and documents, as well as related discussions. Brief descriptions of those different instruments are presented in table 9. Actual copies can be found in appendix A.

Procedures Used in Developing the Survey Instruments

Many of the items employed in the teacher, principal, and counselor questionnaires and the different interview protocols were drawn either directly or adapted from instruments employed in the High School and Beyond Survey (National Opinion Research Center 1983) or High School and Beyond-Supplemental (The Consortium for the Study of Effective Schools 1984). In those instances where items that related directly to the study's basic

TABLE 9

SUMMARY DESCRIPTIONS OF THE SURVEY INSTRUMENTS

INSTRUMENT	DESCRIPTION
• Teacher Questionnaire	-A total of 76, primarily fixed-response and short-answer items, many of which (54 percent) had multiple parts and responses. These items related to a number of the policy issues listed in table 8, along with various demographics and background characteristics of the respondents. Nonvocational teachers were asked to complete 46 of the 76 items, whereas vocational teachers were asked to complete them all.
• Teacher Interview	-A total of 13 open-ended items, which served to focus the discussions with selected teachers (i.e., teachers whose classrooms were also observed). These items related to several policy questions listed in table 8. The intent was to provide the respondents with a vehicle for elaborating upon and/or going beyond the fixed responses they were asked to make on their questionnaires.
• Principal Questionnaire	-A total of 56, primarily fixed-response and short-answer items, about a third of which had multiple parts and responses. The items on this instrument related directly to about 2/3 of the policy questions listed in table 8. Overall, the focus was upon securing descriptive information regarding the community in which the respondent's school is located, the school population (students and teachers) served, and the kinds of courses and programs offered.
• Principal Interview	-A total of 10 open-ended items that addressed about half of the policy questions listed in table 8. Like the Teacher Interview protocol, it provides the respondents with the fixed responses they were asked to make on their questionnaires.
• Counselor Questionnaire	-A total of 32 fixed-response and short-answer items. Of that total set of items, 13 (or 41 percent) had multiple parts and responses. About 1/4 of the policy questions in table 8 were addressed by this instrument.

TABLE 9--Continued

INSTRUMENT	DESCRIPTION
• Counselor Interview	-Twelve open-ended items. These items related to about half of the policy questions listed in table 8 and provide the respondents with an opportunity to describe aspects of selected programs and activities provided by their schools in greater depth than was possible via the fixed response items on their questionnaires.
• Student Interview	-A total of 10 fixed-response and short-answer items. Of that total, three involved multiple parts and responses. Operationally, nine of the questions involved oral responses by the respondents, whereas one item required a written response on individual (one-page) forms that were administered by the interviewer. No student names or other types of identification were requested. As noted in table 7, this instrument was administered to a small group of (five or six) students, either as a group or individually. It directly addressed about 1/3 of the policy issues listed in table M7.
• Syllabus Evaluation Form	-A total of 12 items that dealt with the content, organization, and structure of individual classes offered in the sampled schools. It was completed by the field representative based upon a review of documents and discussions with appropriate school pesonnel. It involved items related to several of the policy questions being addressed.
• Summary Data Form-Outcomes	-Involved 19 types of outcome information related to students' labor market participation, school-related performance (e.g., basic skills achievements, competency test score results), and their post-secondary participation. The instrument was very general and required multiple responses in the form of schoolwide, service area, or curriculum-by-curriculum percentages, means, or frequencies. The form was completed by the field representatives based upon inputs received from personnel in the cooperating schools. This form was to serve as a vehicle for securing/summarizing existent school data and not to generate new "outcome" data.

policy questions or allied issues were not found, new items were developed. It was assumed this process would expedite preparation of the required instruments, as well as increase their overall quality (i.e., build upon the developmental expertise and expenditures invested in the existing instruments). Given the cost and time constraints under which the current study was conducted, such economies were viewed as essential.

The different emphases addressed by the SUMMARY DATA FORM - OUTCOMES were drawn from previous research (e.g., Campbell and Basinger 1985) dealing with the economic and noneconomic outcomes of vocational education. The intent was to develop a standardized data form that allowed for the collection/summarization of many of the types of criterion data identified across that previous research. The expectation, however, was that not all schools would provide all the types of data noted. Furthermore, it was assumed that schools would have the indicated data available as "public" information in reports or other documents. The use of such a standardized form provided an opportunity to look at the consistency with which various types of outcome information are routinely collected and reported by secondary schools.

Initially, the items used in the study's survey instruments (as well as many of those used in the observational materials) were drafted or identified based upon the kinds of policy questions listed in table 8 and other major concerns related to vocational education's role at the secondary level. Next, they were combined into draft instruments. At that point, they were reviewed by a committee of senior-level National Center

professional staff. Those committee members had expertise in one or more of the "areas of emphasis" (see table 8) being addressed in the study (e.g., basic skills, at-risk youth, and/or career guidance). Based upon inputs gleaned from this initial review, the instruments were revised to reflect the reviewers' concerns. Subsequently, the revised drafts were submitted to the committee for a second review.

After undergoing a second revision, the instruments were sent to an outside panel for their critique and reactions. The members of that independent review panel are listed in table 10. The suggestions and concerns raised by the panel members were addressed in a third revision of the various instruments.

Finally, during visits to four schools the instruments were pilot-tested. The primary objective of the pilot-tests was to evaluate the wording and "usability" of the instruments and protocols under field conditions. The results of these limited tests were used to revise the instruments and forms, prior to the initiation of the study's intensive data collection.

Response Rates on the Different Survey Instruments

Although the process used to identify the respondent sample for a survey has critical implications in relation to the representativeness of that sample as well as the generalizability of the resultant findings, those factors are also directly affected by the response rates obtained from the sampled

TABLE 10

MEMBERS OF THE INSTRUMENT REVIEW PANEL

NAME AND AFFILIATION	AREA(S) OF EXPERTISE
ANDERSON, Lorin University of South Carolina Columbia, South Carolina	Teaching, research, classroom observation, instrument development
COPA, George University of Minnesota St. Paul, Minnesota	Vocational education teaching and research, classroom observation, instrument development
HOLMES, Marion School District of Philadelphia	Vocational education administration, large city director, teaching
JACKSON, Florence New York City Board of Education	Bilingual education, limited English proficiency, staff development
JARCHOW, Ronald Department of Public Instruction Des Moines, Iowa	Curriculum, evaluation, staff development
KNAPP, Howard Tuscola Area Skills Center Caro, Michigan	Vocational education administration, curriculum, placement
KOZEN, Ken Northwest Suburban Special Education Organization Arlington Heights, Illinois	Teaching all exceptionalities, vocational education, administration
MAYER, Robert Nationwide Insurance Columbus, Ohio	Personnel selection, employer-PIC linkage
MEYER, Robert Brookings Institution Alexandria, Virginia	Labor economist, observational methods, instrument design
QUARLES, George Sewanahaha Central High School District Floral Park, New York	School administration, planning, supervision, curriculum

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respondents. Too low a response rate or a set of responses that are constrained in some systematic way can also have deleterious effects upon both representativeness and generalizability. Given this perspective, the response rates across the survey instruments described in table 9 were computed. A summary of those results is presented in table 11.

A review of table 11 shows that the response rates for the various instruments were quite good, ranging from a high of 100 percent to a low of 82 percent. Generally, these response rates are somewhat higher than those occurring for many surveys conducted in the field of education (Kerlinger 1973). Furthermore, they correspond quite favorably with the response rates obtained in other national studies like HS&B (where the response rates range from 68 percent to 88 percent across different respondent groups). These results may reflect the acceptance of the study by the cooperating schools as well as the fact that study personnel were physically on site, which may have affected the respondents' perceptions of the importance attached to the study.

Classroom Observation System

As pointed out earlier, the primary focus of the study was secondary classrooms, particularly vocational classrooms, and the instruction-related processes and content that characterize those classrooms. With this focus in mind, during the planning stages of the study, the decision was made to utilize an observational process to describe (1) the different classrooms identified; (2)

TABLE 11

RESPONSE RATES ACROSS THE VARIOUS SURVEY INSTRUMENTS

INSTRUMENT	NUMBER OF RESPONDENTS	RESPONSE RATE*
• Teacher Questionnaire	2251	82% **
• Teacher Interview Protocol	850	95%
• Principal Questionnaire	107	89%
• Principal Interview Protocol	117	98%
• Counselor Questionnaire	114	95%
• Counselor Interview Protocol	116	97%
• Student Interview Form ***	824	92%
• Syllabus Evaluation Form	764	86%
• Summary Data Form-Outcomes	120	100%

* The bases (denominators) for computing the rates listed in this column are the n's listed in the last column of table 7.

** This response rate is across all the participating schools.

*** The figures shown for this instrument represent responses and a response rate for classes rather than individual students. Student response rates would approach 100 percent, since only a couple chose not to participate in the study.

the activities that took place in those classrooms; (3) the people who participated in those activities; and (4) the implications to those people of the interactive context defined by the classroom, the activities, and their participation. In terms of the conceptual framework presented in chapter 1 (see figure 3), these issues are related principally to the following elements:

- Teaching priorities and plans
- Teaching activities
- Student characteristics
- Student, teacher, materials/equipment interactions

Overall, these elements define what is labeled in figure 3 as the teaching-learning process. It was assumed that an observational approach would help to provide a fuller, more accurate description of these different elements than other techniques (e.g., responses by teachers to questionnaire items or interview questions). Furthermore, that approach would provide a unique opportunity to "look inside" vocational classrooms, after the classroom door had been closed, something rarely done before on a national scale.

Given this basic decision, several secondary decisions (Evertson and Green 1986) needed to be made. Those decisions included selecting---

1. the question or questions for study;

2. the setting(s) in which the observations were to occur (e.g., classroom, lab, shop, work-site);

3. the "slice of reality" to be observed in the designated setting(s) (e.g., class discussions, question-and-answer sessions related to the teacher's presentation of theoretical materials, the beginning of a lesson involving the application of a particular process/procedure);

4. the tool or combination of tools to be used to record and store the "slice of reality" being observed (e.g., field notes, category system and checklists, videotape and/or audiotape records);

5. the specific procedures to be used for observing (e.g., when to observe, number of observers to be used, the specific observational task to be used-how-when);

6. the people to be observed or the locus of the observations (e.g., teacher, individual students, entire class, small groups of students, all adults in the classroom, specific events or behaviors);

7. the analysis procedure(s) to be used to address the question(s) of interest via the resultant data; and

8. the method(s) of reporting the data and results obtained via the observation tool(s) (e.g., a written report, graphic representation, selected excerpts from videotapes illustrating specific results).

Basically, the first two decisions were answered via the study's initial objectives and conceptual framework (figure 3). That is, the questions to be addressed dealt with describing the processes and content that define instruction in vocational classrooms. Furthermore, process and content are characterized by the teaching-learning process as described in figure 3. With regard to the second decision, a vocational classroom could be a "traditional" classroom, a lab or shop in which course-related instruction occurred, or a work site, if that work site was located on the school campus (e.g., a student store or nursery).

The third decision involved the kinds of instructional activities to be observed. In regard to this issue, the decision was made to try to view "normal," ongoing instructional activities in the observed classrooms, activities that were not staged for the observer's benefit nor exemplary, but a representative sampling of the daily routine occurring in those classrooms. Also, in keeping with this decision, an effort was made to observe a cross-section of the classes within each cooperating school.

Although it is not possible to be certain these outcomes occurred, teachers and administrators were consistently told that nothing special was to be programmed for the observational periods. In addition, in virtually all of the schools visited, the specific classrooms to be observed were not determined prior to the time the study's field representative was actually on site. This meant that any special activities would need to have been arranged within a relatively short time.

One of the major implications of this third decision was that it allowed a considerable number of different activities to be considered during the observations. As noted earlier, previous research (e.g., Good 1983; Rosenshine 1970; Bossert 1979; Doyle 1977; Anderson, Evertson, and Brophy 1979) clearly suggests that instructional activities in different classrooms vary in a multiplicity of ways. In order to help array this diversity of activities and make it operationally feasible to systematically characterize them, the conceptual framework described in figure 3 was adapted. From an operational perspective, that framework and the related research, as well as concurrent observational research (e.g., Stallings 1978; Halasz, Behm, and Fisch 1984; Franchak, Norton, and Desy 1985; Crowe, Abram, and Burt 1984), led to the characterization of instructional activities in terms of the questions--WHO is doing WHAT to WHOM and HOW?--and helped to identify and define specific responses to key elements in those questions (e.g., the WHO could be a teacher, aide, individual student, or other adult).

The fifth decision regarding the tool or combination of tools to be used to record and store the "slice of reality" being observed involved several concerns. One of those dealt with the structuring and formalness to be employed in the observational process. That concern is graphically depicted in figure 7, which is taken from Evertson and Green (1986).

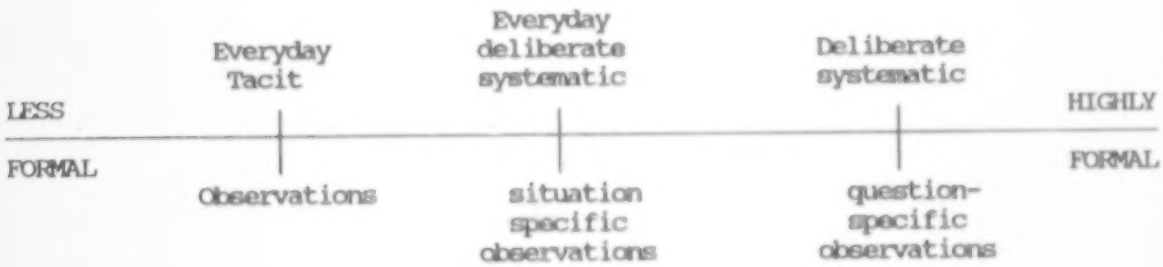

Figure 7. Continuum of observational types

With regard to this concern, the decision was made to employ a structured, formal observational process directed toward addressing the question listed above (i.e., WHO is doing WHAT to WHOM and HOW?). This decision indirectly, if not directly, necessitated that specific observational form(s) be developed and utilized. These forms are described in the ensuing section entitled "Description of the Observation Instruments."

The decisions made regarding the specific procedures to be used during the observations were based upon previous research (e.g., Stallings 1978; Franchak, Norton, and Desy 1985), fiscal and temporal constraints under which the study was being conducted, and the assumption that those procedures needed to be applicable in a diversity of settings and for a variety of

instructional activities. Some of those variations are reflected in the hypothetical examples described in table 12.

Given this perspective, the following basic procedural decisions were made:

- One observer or field-site person would conduct all the observations in a particular school or site over a 1-week period.
- Up-to-eight classrooms per school would be observed, each twice (i.e., at two distinct times during the week).
- The length of the observations was to be determined by the lengths of the periods in the selected schools, up to a maximum of 60 minutes.
- The same forms and procedures were to be employed by each field-site person for each classroom observed.
- The information/data specified in the observational forms was to be viewed as minimal and could be amplified and or expanded via written notes, comments, reactions, and other concerns.
- The observer was to attempt to describe the activities of as much of the class as physically possible (i.e., the observational unit was to be the total class).
- The observations were to be time-based and spread across the observational periods, with each individual observation being viewed as a time sampling of the activities that characterize the classroom being observed.

As indicated above, procedurally, the observers were to attempt to describe the "total" classroom. This also meant that they were to consider as many of the people present in that classroom as possible: teacher, students, and significant others who are present. Generally, these different people were seen as being grouped and functioning in terms of what were referred to as "episodes"; an episode is defined as the mutual or reciprocal influences or actions among students, teachers, subject matter

TABLE 12

HYPOTHETICAL EXAMPLES OF INSTRUCTIONAL ACTIVITIES OCCURRING IN TWO CLASSROOMS

CLASS	DESCRIPTION OF OBSERVED ACTIVITIES	SETTING
• U.S. History	-Teacher is lecturing to the class of 26 students regarding the economics of the South just prior to the Civil War. Periodically the teacher writes a date or other specific "fact" on the board, while the majority of the students sit passively listening. All the time, two students at the back of the class are whispering about something.	"Traditional" Classroom
• Clerical Practices	-The teacher is discussing assignments handed in by five students at the front of the classroom/lab. At the same time eight other students are working individually at their typing stations on segments of a multipart simulation package. The remaining three students are working individually in a small room off the main classroom, which houses six word processors/microcomputers. It appears that they are just learning to use the word processors, because they are talking among themselves, reading portions of a manual, and "trying out" what they have read.	Classroom/ Lab Computer Lab

NOTE: The examples provided here are based upon two actual classrooms observed during the study.

(content), and materials/equipment, which occur in a specific context and involve a focus of attention that is constant and aimed toward the realization of a particular outcome. For example, changing the oil in an automobile or learning the names and functions of the parts of a milling machine could be considered episodes. In essence, these episodes represented the loci of the observations that were conducted.

The decisions (that is, decisions 7 and 8 noted by Evertson and Green 1986) made in relation to the analysis procedures and reporting methods to be used are reflected in the methods used to

present the study results, which are described in chapter 3, as well as by the format and existence of this report.

Description of the Observational Instruments

As noted earlier, the systematic documentation of the diverse classrooms and related instructional activities found in vocational settings (see the second example in table 12), required a comprehensive observational system. The system that was developed incorporated elements of the approaches described by Stallings (1978); Goodlad, Sirotnik, and Overman (1979); Halasz, Behm, and Fisch (1984); Crowe, Abram, and Burt (1984); and Franchak, Norton, and Desy (1985). Operationally, that system was defined by the following three instruments:

- Initial Classroom Summary Form. This form was used to secure and record information about the students (e.g., number enrolled in the class, numbers of males and females, handicapped, minority, and LEP, and a distribution by grade level); the physical area in which the observation was conducted (e.g., classroom, shop); the locations of key participants (e.g., students and teacher); and the types of tools, equipment, instructional materials, and audiovisual equipment that was available for use during the observation-related instructional activities.

- Classroom "Snapshot" Records. These forms were completed after the initial classroom summary and approximately every 10 minutes thereafter during the course of the observation--six per 60-minute class period. The snapshot "is so named because it records the environment and the participants in the classroom as if they were being photographed at one instant. It records every person in the classroom in the activity in which they are engaged and shows with whom they are engaged in the instant" (Stallings 1982). In essence, those forms are used to record the observer's mental picture of the interactions and activities that transpire at the selected point in time in the classroom--WHO is doing WHAT to WHOM and HOW? It also incorporates

information regarding the content foci and materials employed in those activities.

- Postobservation Summary Form. This form is completed by the observer at the end of the observational period or soon after that period has ended. It is used to record the observer's more general perceptions regarding the overall "format" of the observed class, the datedness of related materials and skills, the time spent on different types of skills, the kinds of questioning and evaluations used, and an estimate of how much was accomplished during the observation period.

Organizationally, these different instruments are arrayed in booklet form. A graphic overview of how those instruments are combined for one observation is shown in figure 8. A single copy of an entire Classroom Observation Booklet, which was used in the field, is presented in appendix A.

Observation-Related Training Activities

Proper use of the observational system, so that uniform, objective data were secured from a number of field personnel, necessitated that an observer training program be implemented. The three objectives that guided that training effort were to (1) provide the observer trainees with an overview of the study and its purpose, (2) review on-site procedures, and (3) develop proficiency in the use of the instruments, particularly the observation instruments.

Most of the observer (or field-site) trainees were selected from among National Center staff. They were, therefore, familiar with vocational instruction and with basic research methodology, for example, interviewing procedures. Approximately 20 percent were outside consultants, who possessed approximately the same

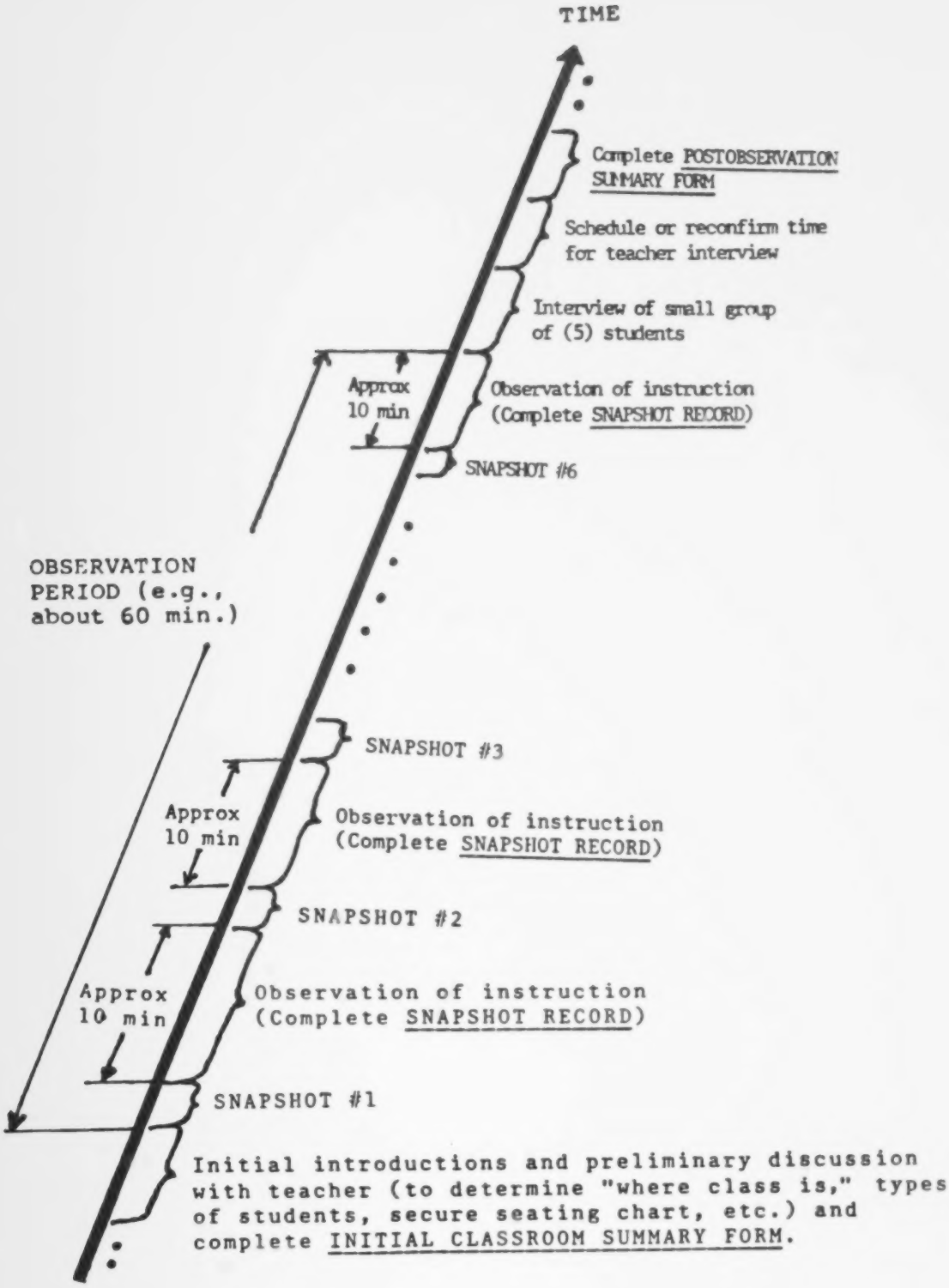

Figure 8. General overview of the classroom observation process

credentials as the National Center staff members. All the trainees had, at minimum, a bachelor's degree, and most had teaching experience at the high school level. It was felt that such an experience base was important, since the observers would be required to describe and make judgements about fairly complex instructional relationships occurring in complex contexts.

In all, four different observer training sessions were held. Those various sessions are summarized in table 13. As shown in that table, a total of 25 different field-site observers completed the required training program.

During the initial preparations for the training program, a set of videotapes needed to be identified and secured. Realistic videotape segments involving secondary vocational classrooms were needed to provide replicable, standardized learning experiences for the trainees. In order to address this need, existing materials were solicited from National Center staff, Ohio State University faculty, faculty in other major universities, staff in the Ohio State Department of Education, and vocational educators in several joint vocational school districts. These efforts yielded eight video scenarios for use during the training sessions. The bulk of those materials was provided by the Agricultural Education Department at Ohio State University and the Vocational Education Department at Temple University.

An agenda for one of the training sessions is presented in exhibit 4. As shown in that exhibit, the classroom observations/ forms consumed the greatest amount of time during the sessions.

EXHIBIT 4

Agenda - Training Session for Classroom Dynamics Study

Note: All meetings will be held in Room 1B, 1960 building.

Tuesday, September 2

1:00 p.m.	Welcome - Introduction to the project travel arrangements
2:00 p.m.	Overview of the schedule/instrumentation
	BREAK
3:00 p.m.	Observation instrumentation

Wednesday, September 3

8:00 a.m.	Teacher, Administrator, Guidance Counselor Questionnaires
9:30 a.m.	Board Center van for field site visit
11:30 a.m.	Return to National Center
	LUNCH*
1:00 p.m.	Discussion of observations at field site
2:00 p.m.	Practice seminar on videotapes
	BREAK
3:00 p.m.	Protocol on site Conduct of interviews Collection of summary data

Thursday, September 4

8:00 a.m. (Sharp)	Board Center van for 2nd field observation site
12:30 p.m.	Return to National Center
	LUNCH*
1:30 p.m.	Discussion of observations at field site
2:15 p.m.	Criterion tape observations
	BREAK
3:00 p.m.	Wrap-up seminar Procedures for collecting missing data Transportation of forms

TABLE 13

SCHEDULE OF 1986 OBSERVER TRAINING SESSIONS

DATES	EVENT	NO. OF PARTICIPANTS
• April 2-8	Training for spring observers	13
• April 22-23	Training for consultants hired as observers for spring	3
• August 28	Refresher for spring observers who were to observe again in the fall	7
• September 2-4	Training for fall observers	10

However, the trainees were introduced to the other project instruments as well.

The specific training provided regarding the observation system included the following:

- A brief overview--"walk-through"--of the observation booklet was completed.
- Presentation of definitions for key concepts such as "snapshot" and "episode" as well as the discussion of the different questions on the observation instruments was made.
- Practice in completing snapshots and identifying episodes within those snapshots was provided through paper-and-pencil simulations and by viewing video-tape segments.
- Group discussions were held and presentations of typical responses to several commonly encountered classroom instructional activities/situations were provided.
- Practice sessions on completing the different observation instruments, particularly snapshots, via the use of video tape segments were conducted.
- Practice completing the different observation instruments in actual classrooms was provided.

- Group discussions of practice experiences and specific concerns/issues related to those experiences were held.
- Criterion tape observations were completed.

The criterion tape observations noted above were used to assess the degree of consistency/comparability with which the trainees characterized (via the observation instruments) the same set of four classroom settings. Those four tape excerpts represented different types of instructional activities and emphases, (e.g., lecture, demonstration, classroom management). Each test segment was described by each trainee.

Despite the apparent level of agreement found among the observers on the criterion tape observations, the controversy that exists in the literature regarding the appropriateness and psychometric acceptability of measures of interobserver agreements, prompted the decision to vary the field observers' assignments across states and types of schools. More specifically, the decision was made to not have any one observer (1) visit more than one school in each sampled state or (2) visit only one type of school (e.g., comprehensive, vocational, area vocational). It was assumed that these restrictions would help guard against biased results due to the data being confounded with individual observers' idiosyncrasies. Therefore, variations among observers, at least across schools and states, would become part of the error variance in subsequent statistical analyses.

Procedures Used during Data Collection

Time and other contract-related constraints necessitated that the study be completed in a 2-year period. Operationally, these constraints, as well as others, such as timing of the school year and vacation schedules, meant that the 120 sampled schools had to be visited over a period of 18 calendar weeks. Six of those weeks were during April and May, and 12 were during September through December of 1986 (The 34 schools visited during the spring were randomly chosen from among all the schools identified for inclusion in the sample). This meant that approximately seven field-site personnel were visiting schools each of the 18 selected weeks.

In the materials that follow, the procedures used by the observers during their school visits are described. Those procedures concern the initial scheduling, the on-site activities, and the postvisit activities. As noted in the previous section, the field-site personnel were familiarized with those procedures and activities during the observation training sessions.

Scheduling

The logistics associated with scheduling site visits were quite involved. As mentioned earlier, each field-site representative could not be scheduled to visit more than one school per state and had to be assigned visits to differing types of schools (i.e., comprehensive, vocational specialty, and area vocational schools). These constraints, as well as others (e.g., individuals' vacation schedules, sickness, inclement weather

conditions), necessitated that considerable previsit effort be extended in reaching agreements, finalizing visitation dates, and making any required adaptations and/or alterations.

To minimize confusion, one National Center staff person handled most of the state and local contact calls, observing protocols unique to each state or local site. Although a few state departments preferred to secure commitments themselves, most supplied the names and phone numbers of superintendents, principals, and vocational administrators to be contacted. Follow-up letters and explanatory materials were forwarded to each official, either to provide further information or to confirm visit dates agreed to by phone. (See exhibits 5 and 6.)

A final commitment to participate in the study required an average of four calls per site to relevant personnel, necessitating careful record keeping of contacts made, and those still pending. A contact record form prepared for each state (exhibit 7) served this purpose. Overall, completing the site visit arrangements involved approximately 12 person weeks of effort spread over a 3- to 4-month time period.

Once matched with a site, the observer was given a completed "Field Site Representatives Preliminary Contact and Planning Guide" (see exhibit 8). The "notes" section of that guide contained information obtained from the state department of education regarding the school to be visited, (e.g., service areas offered, school setting [rural, suburban, or urban], and student body enrollment).

EXHIBIT 5

EXPLANATORY MATERIALS

A NATIONAL STUDY OF VOCATIONAL EDUCATION
1986-1987

Your School's Involvement

Background

Your school was chosen as one of 118 schools nationwide to be included in a study called "Understanding the Dynamics of Secondary Vocational Classrooms--A Prerequisite to Improvement." It's an important study, one that is intended to document vocational education's involvement in a number of critical areas, such as upgrading and reinforcing students' basic skills and developing special techniques for use in addressing the needs of handicapped, minority and other "at-risk" students. The study is funded by the Office of Vocational and Adult Education of the U.S. Department of Education.

The selection of schools within each of 24 participating states was done with the support of individual State Departments of Education; the selection method ensured fair representation of diverse types of vocational education delivery systems and settings. Data collection began this spring with staff members from the National Center for Research in Vocational Education visiting 35 schools--at least one in each participating state. The remaining school visits will be completed this fall. Our experience is that the specific instructions and procedures used in the spring data collection effort have proven to be effective and reasonably unobtrusive.

From the outset, it is understood that each school's participation in the study is voluntary. No references will be made in any project reports or other disseminated materials to specific individuals, classes, schools or states. All data will be treated in strictest confidence. Each participating school will receive a certificate of appreciation, copies of the project's executive summary, and a copy of the final report.

Study Requirements for School Information and Staff Time

Upon agreeing to participate, your involvement in the study will begin with arrangements for a National Center staff member to visit your school at a convenient time this fall. During the week-long school visit, that individual will need to observe a maximum of 8 ongoing classes and gather related information through questionnaires and brief interviews with the principal, a counselor, teachers, and small groups of students in the selected classes. In addition, the staff member will need access to such general school data as would be found in accountability reports, proposals, and other existing documents. These data, as available, would include:

- dropout rates
- placement rates for students in different vocational programs
- percents of students going into postsecondary training
- percents of handicapped students
- average college board scores
- basic skills achievement scores
- copies of course syllabi

The selection of the specific classrooms to be observed and teachers who will receive questionnaires is accomplished using a random sampling process the first day of the visit. Because the National Center staff member cannot visit every classroom, the random selection procedure he/she uses will help insure that the data from your school will combine with that from other schools to provide a description of typical classrooms nationwide.

Figure 1 provides a brief outline of activities that the National Center staff member will be completing during his/her week at your school.

The estimated amounts of time required of individual students and staff of an "average" school during that week are as follows:

- Principal - 1 hour
- Counselor - 1 hour, 30 minutes
- Teachers - 1 hour, 10 minutes, and
- Students - 15 minutes (per group of 5 students).

More about the Study--Why It is Important

Two of the basic mandates under current federal vocational legislation (i.e., the Carl D. Perkins Vocational Education Act) are the requirements to improve the quality and effectiveness of our vocational programs. However, no nationwide database exists which can be used to describe in detail what really takes place in vocational classrooms or what key factors impact upon the kinds of instructional experiences provided in those classrooms. The following questions illustrate several of the current needs for information:

- Are there unique areas within the vocational curriculum that lend themselves to delivering basic skills instruction?
- How are the needs of different "at-risk" students such as potential dropouts, the handicapped, and limited English proficient students being addressed in vocational classrooms?

Exhibit 5--Continued

OVERVIEW - SCHEDULE OF ACTIVITIES FOR WEEK				
Monday	Tuesday	Wednesday	Thursday	Friday
- Hold introductory meeting with principal or his/her designee	- Conduct observations* and review reports, etc.	- Conduct observations* and review reports, etc.	- Conduct observations* and review reports, etc.	- Complete observations* and reviews of reports, etc.
- Select and schedule classrooms for observation - Select teachers and distribute questionnaires to them				
- Get "Lay of Land" and briefly meet teachers of classes to be observed, if possible				
- Interview counselor				
- Establish mechanism for reviewing reports, syllabi, etc. - Begin observations*			- Secure copies of completed questionnaires	- Interview principal, hold final debriefing session with principal

*The interviews of teachers (maximum of 8) and group interviews with students (a total of approximately 8 x 5 = 40) will occur as part of the classroom observations.

Figure 1. General outline of the schedule of activities for the week of the site visit

The National Center for Research in Vocational Education is undertaking this study to pursue answers to these and similar questions. The study has been endorsed by the Executive Committee of the State Directors of Vocational Education and is perceived as an essential ingredient in efforts at the national level to improve the quality and effectiveness of vocational education as required by the Perkins Act.

If you desire additional information, please contact Dr. Jim Weber at the National Center.

EXHIBIT 6

FOLLOW-UP LETTER

OSU

The Ohio State University

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

1960 Kenny Road
Columbus, Ohio 43210-1090

Phone: 614—486-3655
Cable: CTVOCEDOSU/Columbus, Ohio

November 10, 1986

Dear

First, we would like to thank you for your cooperation and assistance in relation to our project, "Understanding the Dynamics of Secondary Vocational Classrooms--A Prerequisite to Improvement." As indicated in our conversation, the basic purpose of this project is to help document the kinds of teaching-learning processes and activities occurring in vocational classrooms. The project has been endorsed by the Executive Committee of the State Directors of Vocational Education and is perceived as an essential ingredient in efforts at the national level to improve the quality and effectiveness of vocational education as required by the Perkins Act.

is one of twenty four states that were randomly selected to participate in the study. Dr. of your State Department has worked with us regarding the random selection of four schools for observation, of which High School is one. The attached information should help to clarify the study purpose and procedures.

We sincerely appreciate your help in facilitating arrangements to visit the school December 8 - 12, 1986.

Thank you.

Sincerely,

Enclosures

NFP/chg

EXHIBIT 7

VOCATIONAL CLASSROOM DYNAMICS PROJECT CONTACT RECORD

STATE OF _____ CONTACT PERSON _____ PHONE _____ TENTATIVE DATES FOR VISIT _____

SCHOOL NAME AND ADDRESS	PERSONNEL	PHONE	NOTES
(1) _____	Principal: _____	_____	_____
	Superintendent: _____	_____	_____
	Voc Director: _____	_____	_____
	Other: _____	_____	_____
	FINAL DATES: _____		
(2) _____	Principal: _____	_____	_____
	Superintendent: _____	_____	_____
	Voc Director: _____	_____	_____
	Other: _____	_____	_____
	FINAL DATES: _____		
(3) _____	Principal: _____	_____	_____
	Superintendent: _____	_____	_____
	Voc Director: _____	_____	_____
	Other: _____	_____	_____
	FINAL DATES: _____		
(4) _____	Principal: _____	_____	_____
	Superintendent: _____	_____	_____
	Voc Director: _____	_____	_____
	Other: _____	_____	_____
	FINAL DATES: _____		
(5) _____	Principal: _____	_____	_____
	Superintendent: _____	_____	_____
	Voc Director: _____	_____	_____
	Other: _____	_____	_____
	FINAL DATES: _____		

EXHIBIT 8

CONTACT AND PLANNING GUIDE

1960 Kenny Road
Columbus, OH 43210-1090
(614) 486-3655 1-800-848-4815

The National Center for Research in
Vocational Education
The Ohio State University

FIELD SITE REPRESENTATIVE'S
PRELIMINARY CONTACT AND PLANNING GUIDE

SCHOOL_____ STATE_____

Type: ___ (Comprehensive) ___ (Vocational) ___ (Area Vocational)

VISIT DATES:_____ FINAL ARRANGEMENTS MADE BY_____

ON (DATE)_____ WITH_____

BUILDING ADMINISTRATOR:_____ PHONE _____

VOC. ED CONTACT:_____ PHONE _____

OTHER:_____ PHONE _____

NOTES:

SCHOOL ADDRESS:_____

LOGISTICS
Directions to or location of the school:_____

_____

_____

_____

_____

Nearest hotel or motel accomodations:_____

_____

_____

_____

_____

Transportation possibilities:_____

_____

_____

_____

_____

Field Site Rep's Guide to Introductory
Call To School Administrator -- Over

EXHIBIT 8 - Continued

OBJECTIVES OF PHONE CALL:

1. **Introduce yourself as the visiting field site representative. Thank them for agreeing to participate.**

2. **Confirm the dates.**

3. **Review the study, if necessary. Ask if more information should be sent.**

   a. The study is federally sponsored by the Office of Vocational and Adult Education and is being carried out by the National Center. 24 states are participating, 5 or 6 schools in each state, 118 schools nationwide.

   b. The purpose of the study is to provide a description of what goes on in vocational classrooms. IT IS NOT AN EVALUATION STUDY. Individuals, classes, schools and states will not be named or otherwise singled out in any reports, studies or other disseminated documents.

   c. Certificates of appreciation, the final report and executive summaries of the report will be sent to each participating school.

   d. By participating in the study, each school/teacher will be contributing to a large effort that should lead to a better understanding -- and therefore stronger support -- of the unique learning opportunities and teaching techniques that occur in vocational classrooms.

   e. Academic classrooms will be visited to gather comparison data.

4. **Outline your agenda.**

   a. Nice to have ready Monday morning:

      -- roster of teacher names and areas (for random selection of classes & questionnaire recipients).
      -- schedule of classes, periods, times
      -- map of school

   b. What you'll be doing:

      -- collecting information through questionnaires distributed to teachers, a counselor, and the building administrator.

      -- visiting up to eight vocational and academic classes (randomly selected by you Monday morning and approved by the administrator)

      -- interviewing the administrator, the guidance counselor, and teachers and a few students in each observed class.

      -- reviewing records, reports, and course descriptions.

The contact and planning guide (exhibit 8) paved the way for the observer to call the contact person at the site. This call served several purposes. First, it served to introduce the two individuals. Second, it allowed for the asking of logistical questions (hotels close to site, directions to school, transportation possibilities). Third, it provided a means of scheduling a meeting with the contact person as early on the first day as possible and to indicate what materials would be needed to begin the observations (roster of teacher names and subjects taught; schedule of classes, periods, and times; and a map of the school). These telephone calls seemed to reassure both the observers and the contact people by making the situation more personal and, thus, less threatening.

Packets of Instruments and Materials

Prior to the beginning of each site visit, the instruments and related materials needed for that site were assembled and placed into a large, brown, expandable folder. That folder was labeled with the name of the school and the city and state in which it was located. (The labeling was important during the coding, verification, and closeouts phases of the project). Items included in the packets are listed in exhibit 9. That list was included in each packet so the observer could easily double-check the contents.

On-Site Activities

Once on site, the observer would meet with the school's contact person or, if that person was unavailable, with his/her

EXHIBIT 9

Packet Inventory Checklist

Observer's Materials Inventory

INSTRUMENT/MATERIAL	NUMBER NEEDED
1. Counselor Questionnaire	2*
2. Counselor Interview Form	2*
3. Principal Questionnaire	2*
4. Principal Interview Form	2*
5. Teacher Questionnaire (8 for observed and 20 for nonobserved	30
6. Teacher Interview Form	8
7. Student Interview Form	8
8. Classroom Observation Booklets	8
9. Summary Data Form--Outcomes	2*
10. Course Syllabi Evaluations (Booklet)	2*
11. Site Schedule	2*
12. General Selection Procedures	1
13. Follow-up Letter	28
14. General Description of things that Need to be Completed	1
15. Letter--Introductory (to be included with questionnaires)	30
16. Tables of Random Numbers	1
17. Questionnaire Return Checklist	1
18. Project Description--"Your School's Involvement"	1
19. Preliminary Contact and Planning Guide	1
20. Pre-Addressed, Pre-Paid Envelopes (Project # and Respond Code Need to be Affixed)	25
21. Project Profiles	10
22. Collection Envelopes	1

*An extra copy of each of the indicated items would normally be included in each packet.

designee. This initial meeting typically occurred as early as possible on the first day of the observation period (Monday). The contact person was generally the building administrator (principal is the term most often used), but sometimes the vocational director served as the contact person.

This meeting served several purposes. First, the observer and contact person became acquainted and had a chance to discuss their roles. Second, expectations could be verbalized. Third, procedures for conducting the observations and collecting data would be discussed. Fourth, the observer could obtain general information about the school as well as a roster of teacher names and the subjects they taught, a schedule of classes and periods/times, and a map of the school. Fifth, the summary data form could be reviewed and a copy given to the contact person.

The summary data form (exhibit 10) was one of the most difficult forms to work with. Schools keep different kinds of outcome data in many different forms/ways. In no case did any school fill out the form completely. The observer informed the contact person that the request was to provide only those data that were already available in summary reports and/or related school documentation.

If the contact person was the building administrator, he/she could also be given the administrator questionnaire, and a time could be tentatively set for the administrator interview on Friday, the last day of the site visit. If the contact person was not the building administrator, then an appointment with that person could be arranged.

EXHIBIT 10

SUMMARY DATA FORM - OUTCOMES

School _____ Source(s) of Data _____

Site Person _____ _____

School Location _____ _____

		SERVICE AREAS						CURRICULA			SCHOOL TOTAL
		A	B	H	M	HE	TI	Acad.	Gen.	Voc.	
LABOR MARKET PARTICIPATION											
• Percent employed -	(1) At exit from HS										
	(2) Up to 6 mo. after HS										
	(3) Up to 1 yr. after HS										
	(4) Over 1 yr. after HS										
• Percent employed in area of training -	(5) At exit from HS										
	(6) Up to 6 mo. after HS										
	(7) Up to 12 mo. after HS										
	(8) Over 1 yr. after HS										
• Length of time on a single job (weeks) -	(9) Up to 6 mo. after HS										
	(10) Up to 1 yr after HS										
	(11) Over 1 yr after HS										
• Wages ($/hr.) -	(12) At exit from HS										
	(13) Up to 6 mo. after HS										
	(14) Up to 1 yr. after HS										
	(15) Over 1 yr. after HS										
• Earnings ($/mo.) -	(16) Up to 6 mo. after HS										
	(17) Up to 1 yr. after HS										
	(18) Over 1 yr. after HS										
SCHOOL VARIABLES											
• Dropout rates (percent) -	(19) 1983/84 school yr.										
	(20) 1984/85 school yr.										
	(21) 1985/86 school yr.										
• Basic skills scores (indicate type, e.g., T, percentile, etc.) -	(22) Before 9th - math										
	(23) 9th - math										
	(24) 10th - math										
	(25) 11th - math										
	(26) 12th - math										
	(27) Before 9th - reading										
	(28) 9th - reading										
	(29) 10th - reading										
	(30) 11th - reading										
	(31) 12th - reading										

* A = Agriculture, B = Business and Office, H = Health, M = Marketing and Distributive Education, HE = Occupational Home Economics, TI = Trade and Industrial (and Technical)

EXHIBIT 10 - Continued

	SERVICE AREAS						CURRICULA			SCHOOL TOTAL
	A	B	H	M	HE	TI	Acad.	Gen.	Voc.	
• Achievement test scores (indicate type, e.g., T, percentile, etc.) - (32) Before 9th										
(33) 9th										
(34) 10th										
(35) 11th										
(36) 12th										
• Competency exam scores (indicate type and cutoff) - (37) Before 9th										
(38) 9th										
(39) 10th										
(40) 11th										
(41) 12th										
• Performance (occupational skill) tests - (42) Before 9th										
(43) 9th										
(44) 10th										
(45) 11th										
(46) 12th										
• Interest test or inventory (indicate type) - (47) Before 9th										
(48) 9th										
(49) 10th										
(50) 11th										
(51) 12th										
• Number of scholarships won (52)										
• Numbers of prizes/awards won in relation to clubs (e.g., VICA, Jr. Ach.) (53)										
POSTSECONDARY PARTICIPATION										
• Percent enrolled - (54) Voc/Tech (postsec) sch.										
(55) 2-year colleges										
(56) 4-year colleges/univ.										
• Percent Completed - (57) Voc/Tech (postsec) sch.										
(58) 2-year colleges										
(59) 4-year colleges/univ.										
• Percent entered - (60) Military										
(61) Apprenticeship										
(62) JTPA sponsored training										
(63) Empl. sponsored train.										

COMMENTS (e.g., problems in securing data, its quality, etc.)

Immediately following the initial meeting, up-to-eight classes were randomly selected for observation: two academic classes and up-to-six vocational classes. The teachers of these classes also received questionnaires and were to be interviewed by the observer. Random number tables were used to select the classes to be observed. The selection procedures employed were described earlier in exhibits 1 and 2.

Once the initial selection of classes had been made, the observers had to fit them into a schedule. Scheduling was easier if the school offered academic as well as vocational classes.

Each class was to be observed twice during the week. If a class covered more than one period (for example, was conducted in a two- or three-period block of time), then one observation would be during the first period and the other, the second or third period, but on a different day. A worksheet (exhibit 11) was used for scheduling observations as well as related teacher and student interviews.

Next, the observer proceeded to randomly select the non-observed teachers who were to receive questionnaires to fill out. Immediately after the teachers were selected (using the procedures described in exhibit 3), the observer recorded their names and the date their questionnaires were distributed on a tracking form (exhibit 12), along with the same information on the teachers who were observed.

Generally, the observer placed the questionnaires in the teachers' mailboxes. Occasionally, the building administrator would request that his/her secretary or other office staff perform

EXHIBIT 11
Scheduling Worksheet

SITE _____

SITE SCHEDULE

TIME PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	NOTES
1						
2						
3						
4						
5						
6						
7						
8						
9						

How many vocational programs are offered in:

- Agriculture? _____
- Health? _____
- Occupational Home Ec? _____
- Consumer & Homemaker? _____
- Business and Office? _____
- Marketing & DE? _____
- Trade and Industry (Tech)? _____
- Industrial Arts? _____

EXHIBIT 12

QUESTIONNAIRE TRACKING FORM

QUESTIONNAIRE RETURN
CHECKLIST

Vocational teachers observed	Distributed	Returned
1.		
2.		
3.		
4.		
5.		
6.		

Academic teachers observed		
1.		
2.		

Other teachers		
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

this task. Inserted into the questionnaires were exhibit 13 (for all teachers) and exhibit 14 (for observed teachers only).

For collection purposes, an envelope was provided by the observer and left in the main office. The observer would remove questionnaires at the end of each day and log in their return on the Questionnaire Tracking Form checklist (exhibit 12).

Once the observer had selected the teachers to be observed, the observer would request to meet the teachers. Notifying the up to eight teachers of the fact that they were going to be observed was usually best accomplished by having the contact person introduce the observer to them. At that time, the observer would request the teacher's assistance in providing necessary information about the class (total enrollment, as well as enrollment by gender, handicapping condition, and minority status) and in arranging for student interviews. Teacher interviews could also be arranged at this time. If the contact person felt that taking the observer around to meet the teachers was too disruptive to classes, a brief note could be placed in the teachers' mailboxes to accomplish the above-described tasks, or the observer could plan to arrive early enough before the beginning of the observational period so as to gather the required information.

During the actual observations, the first rule followed by the observers was to always be on time or, if possible, to be early. This was much less disruptive to the class and also gave the observer a minute or two to talk to the teacher, gather the background information on the class, and sketch or describe the classroom, shop, or laboratory. The observer would then take a

EXHIBIT 13

QUESTIONNAIRE ENCLOSURE: INTRODUCTORY LETTER

I know how busy you are, and I want you to know how appreciative I am of your willingness to share some of your time this week. By taking an active part in our nationwide study, you and 2500 other teachers across the country will be helping to create a better understanding of and to build stronger support for the learning activities and teaching techniques that are a regular part of your daily professional experience.

An explanation is in order as to who I am and what I'll be doing here. My employer is the National Center for Research in Vocational Education, which is situated on the Ohio State University campus in Columbus, Ohio. The National Center sponsors research and a variety of other activities pertinent to the occupational preparation of workers, both in this country and abroad.

The study that brings me to your school is called "Understanding the Dynamics of Secondary Vocational Education -- A Prerequisite to Improvement." It is funded through the Office of Vocational and Adult Education, U.S. Department of Education. I am here as a guest of your state and your school, and am not related in any way to any state or locally-sponsored program evaluation or review activities. The information I gather through interviews, questionnaires, and observations will be combined with similar information from 117 other high schools in twenty four states. The selection of states, schools, and teachers to be involved in the study was done in such a way as to ensure fair representation of the many types of public education delivery systems and settings found in the United States.

From the outset it is understood that each school's participation is voluntary. No references will be made in any project reports or other disseminated materials to specific individuals, classes, schools or states. All data will be treated in strictest confidence. Each participating school will receive a certificate of appreciation, copies of the project's executive summary, and a copy of the final report.

More information about the study and the National Center is available in the office, and of course, I'll be happy to answer any questions you may wish to raise. I consider it a privilege to be here, and look forward to further interactions with you during the week.

Thanks for your support.

EXHIBIT 14

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

PROJECT PROFILE

UNDERSTANDING THE DYNAMICS OF SECONDARY VOCATIONAL CLASSROOMS — A PREREQUISITE TO IMPROVEMENT

THE NEED

Recent surveys of public opinion have revealed substantial and growing support for the role of vocational education in the high school curriculum. While the commonly-held view of vocational education is that it prepares students for employment immediately following high school, many respondents to these surveys feel that some vocational courses should be required even for students planning to attend college. Advocates of vocational education claim that it is both a body of knowledge and an educative process that —

- provides an alternative to the passivity and lack of variation in teaching methods that characterize the teaching-learning process typically observed in secondary classrooms,
- serves as a powerful motivator for students otherwise at risk of dropping out of high school for a variety of reasons,
- involves the teaching of higher-level analytical skills, not just simple rote skills,
- offers a variety of opportunities for reinforcing and enhancing students' basic skills in contexts directly relevant to the real world,
- teaches work habits and values, career decision-making skills and job-search skills that are needed to secure and retain jobs.

Among the criticisms leveled at vocational education are charges that it trains students primarily for dead-end, low-paying jobs, and takes time away from learning the basics and acquiring a "quality" education.

To date, the kinds of claims and criticisms listed above have been based largely upon anecdotal information, a maze of contradictory perceptions regarding the teaching/learning process, and inferences drawn from a limited number of research studies. No systematic database currently exists that can be used to identify the key factors that operationally define what goes on in vocational classrooms or the contexts within which they function. It has been argued that efforts to improve schools and school programs require a greater understanding of these institutions and what goes on within them. That understanding is also an essential ingredient in efforts to improve the quality and effectiveness of vocational education, two basic outcomes mandated under the Carl D. Perkins Vocational Education Act.

THE PROJECT

The purpose of this 2-year effort is to collect a comprehensive set of data that can be used to describe the dynamics of vocational classrooms and the factors that influence these dynamics. The specific objectives to be addressed are as follows:

- To identify and describe key content and process characteristics that define instruction in vocational classrooms
- To identify the contextual factors that appear to affect instruction that occurs in vocational classrooms
- To describe how instruction in vocational classrooms relates to the learning needs of at-risk students

The specific procedures employed will initially involve the selection of a national sample of approximately 118 secondary schools that offer vocational programs. At the same time, project staff will develop an integrated set of instruments consisting of questionnaires, observational records, interview protocols, and summary data schedules. After field personnel have been trained in how to use the designated instruments, they will collect the required data in the sampled schools. This initial data collection activity will occur in

(over)

FOR FURTHER INFORMATION, CONTACT
THE NATIONAL CENTER PROGRAM INFORMATION OFFICE
TEL. (614) 486-3655 OR (800) 848-4815
CABLE: CTVOCEDOSU/COLUMBUS,OHIO

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 KENNY ROAD, COLUMBUS, OH

the spring of 1986. The resulting data will be processed and used as the basis for some preliminary analyses concerning the project objectives as well as those of several concurrent, related projects. During the fall of 1986, data will be obtained from the sampled schools, then readied for processing and analysis.

RESULTING PUBLICATION/EXPECTED OUTCOMES

During the initial year, the primary outcomes will be the results of the preliminary analyses alluded to previously. A brief summary of those results will be developed and shared with staff members from related projects. The major deliverables—which are (1) a set of machine-readable data files that contain the database and related documentation and (2) a final research report--will be completed during the second year of the project.

AUDIENCE

The primary audience for the principal products are vocational researchers, planners, and policymakers at the state and national levels.

SPONSORSHIP

This project is sponsored by the Office of Vocational and Adult Education, U.S. Department of Education.

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seat or find a place out of the way to stand. The observer remained in the classroom until the end of the class or, in the case of multi-period classes, until the end of the period.

In addition to the observations, the field-site person conducted a series of interviews with key professional personnel at the school. Each of these interviews took 15-20 minutes to complete. Generally, the observed teachers, the counselors, and the administrators were very cooperative in giving their time for this task. However, the observers might have to come in before the school day started, use part or all of a lunch hour, or stay at the end of the day to accommodate schedules. In most instances, the administrator interview was scheduled as late in the week as possible; preferably it was the last contact at the school.

An interview of a small group of five-six students in each of the observed classes was also conducted. This was a relatively easy task because the questions required simple "yes" or "no" responses. The logistics related to these interviews generally were one of the topics discussed during the introductory meetings with the observed teachers. Typically these small-group interviews required 10-15 minutes to conduct. Also, they often were held in a corner of the room, while the remainder of the class was studying an assignment, doing homework, working on projects, reviewing a test or quiz, or completing some other task. In some instances, these interviews were handled on an individual student basis.

Generally, the interviewees were anxious to talk. It was sometimes difficult, however, to keep them on the subject being addressed in the interviews. Frequently, their initial answers to the questions were not pertinent. The questions sometimes had to be restated. The meaning of certain acronyms would have to be clarified.

As noted in exhibit 9, each observation packet also contained forms to be completed describing the syllabi used in the classes that were observed. Eight of these forms (see exhibit 15) were stapled together with a cover sheet to form a booklet. The observer's responses on this form were based upon his/her review of the class materials provided by the teacher or other school personnel, where applicable.

The structure and inclusiveness of the syllabi that were reviewed varied from school to school. In this regard, it is also interesting to note that some schools kept the syllabi in the building administrator's office, some in the department chairperson's office, and some in the classrooms. Syllabi were examined during the week whenever the observer could find time.

Post-site Activities

The activities to be completed by the observer after completing each site visit were fairly straightforward and consisted of checking data, writing appropriate letters, and writing a brief descriptive summary of the site. A formal certificate of appreciation was also sent to each cooperating school.

EXHIBIT 15

SYLLABUS EVALUATION FORM

COURSE/PROGRAM _____

TEACHER _____ DATE _____

Does Syllabus Contain:

_____ behavioral objectives?

_____ lesson plans? _____ Are lesson plans fairly detailed?

_____ Is syllabus competency based?

_____ Does syllabus provide for individuals differences?

When was syllabus prepared? _____ Updated? _____

_____ Does syllabus have comprehensive and specific objectives for all students?

_____ Are the listed teaching techniques or suggestions adjustable to meet the needs of each student?

_____ Does the time scheduling for individual students reflect as awareness of individual capabilities and tolerances?

_____ Does the syllabus provide for individual diagnosis and prescription techniques?

Checking the data involved organizing the forms and making sure that everything was legible and labeled accurately so that the coders and data entry personnel would have no difficulty in handling the data. Many observers accomplished these tasks while still on site.

Writing follow-up letters to thank school personnel for their hospitality and cooperation, as well as to follow up on any outstanding questionnaires, and so forth, was also a responsibility of the observer. These letters were generally one-page in length.

METHODOLOGY: DATA CODING AND PROCESSING

The completed instruments and forms for each of the 120 schools were assembled by the respective site observers in an expandable folder that was labeled with the school's name and location. Before the data in those folders could be entered as part of the project database, the related source documents (e.g., instruments, forms) had to be assigned an appropriate identification code and checked for both their completeness and accuracy. Procedurally, the processing of the folders containing the spring data was completed at the end of the spring data collection effort; processing folders containing the autumn data began near the end of the autumn collection effort. The decision to sequence the processing of the data in this manner was based upon the following:

- A subgroup of the actual field observers, who had collected data and were, therefore, thoroughly familiar with the forms and their usage in the field, could be used to check and code the data.
- The field observers were in close physical proximity to those processing the data and could be easily questioned regarding concerns with specific instruments or forms.
- One type of instrument could be processed across all sites at one time, which provided for greater consistency in interpretation, particularly with regard to the categorization of "open-ended" responses.
- One person could be responsible for coding/reviewing each type of instrument, which also offered for greater consistency.

This section provides an overview of the procedures used in checking and coding the folders of data from the 120 sampled

schools. It describes how those many pieces of data were transferred and translated from the various instruments and forms (shown in appendix A) into data files on magnetic tape that could be readily processed and analyzed. In all, three such files were created--a school file, a teacher file, and a classroom file.

Specifying the Data Identification Codes

As a first step in processing the folders of data, specific identification codes for differentiating among and helping to denote selected information regarding the visited schools and related data were generated and affixed to the respective source documents. The initial five elements in that identification code were (1) a unique three-digit site identification (ID) number; (2) a 4-digit code designating the primary metropolitan statistical area (PMSA) and/or consolidated metropolitan statistical area (CMSA), as well as the county (name and code) in which the site was located; (3) a two-letter state abbreviation code; (4) a one-digit code indicating the type of data contained in the source document (e.g., teacher interview data or classroom observation data); and (5) a code that identified the interviewer/observer who visited the school.

The school identification codes ranged from 001 to 120. Next the county in which each school was located was determined using an atlas; with this information, PMSA, CMSA, and county codes could be determined. Subsequently, these codes were used to access demographic data about the communities in which the schools are located that are provided by the Bureau of the Census and

Bureau of Labor Statistics. The primary source for the PMSA, CMSA, and county codes that were employed was the U.S. Bureau of the Census, County and City Data Book, 1983. Each state then received the two-letter abbreviation that is used by the U.S. Postal Service. These initial three elements in the identification code were assembled in columns (See exhibit 16 below) and used as a source document for subsequent school identification purposes. (Files available for public access were purged of PMSA and state identification data to honor the confidentiality requirements of the project.)

EXHIBIT 16

CENSUS DATA SOURCE DOCUMENT

Site Code	City (Name)	County (Name)	State (abbrev)	PMSA	CMSA	County Code
072	—	—	— 29	7040	82	189
073	—	—	— 35			049
074	—	—	— 20			155
075	—	—	— 47	3840		093
076	—	—	— 10	9160	(77)	003
077	—	—	— 24	0720		005
078	—	—	— 18	2960	14	089
079	—	—	— 42	6280	(78)	003
080	—	—	— 28	3560		049
081	—	—	— 37			155
082	—	—	— 48	7240		029

Code assignments were then made to distinguish among the different types of data collected within each site. First, codes 0-9 were assigned to each of the 10 types of data collected by the site observers and described in the previous chapter. These different types of data, along, with the addition of community

information--employment rates, population statistics, and so forth secured from Bureau of Census and Bureau of Labor Statistics reports--were later assembled across the 120 sites visited into the three project data files as shown in Exhibit 17.

EXHIBIT 17

PROJECT DATA FILES

School File	Classroom File	Teacher File
Community Data	5-teacher questionnaire	5-teacher questionnaire
1-principal questionnaire	6-teacher interview	6-teacher interview
2-principal interview	7-student interview	
3-counselor questionnaire	8-classroom observations	
4-counselor interview	9-syllabus evaluation	
0-summary outcome data		

As is apparent from the listing of data types, teacher questionnaire data were included and appear in both the classroom file and the teacher file; however, the teacher questionnaire data contained in the classroom file are only for those teachers whose classes were observed during the site visits. The teacher questionnaire data in the teacher file consists of questionnaires for those teachers whose classes were observed plus questionnaires from unobserved teachers in the visited schools (see table 7).

Next, a code from 01 to 25 that identified the observer was affixed to each source document. This observer code was used not only to facilitate further identification of data from each site, but also to allow for checks of critical, systematic variations in the data secured by different observers.

One intent of the project was to link all data related to a specific teacher as well as to differentiate among teachers.

Three codes, used in combination, accomplished this. First, as mentioned above, each site was assigned a unique number (001-120). Second, within each site, the observed teachers were assigned a number ranging from 1 through 8 and teachers of nonobserved classes were always designated by "0." Third, a code identifying the course was assigned. For nonobserved teachers, the course codes did not denote the subject matter taught, but rather were used solely as unique identification numbers. For example, the first nonobserved teacher's course was assigned "9999," the second was assigned "9998," and so forth.

Assignment of course codes for the observed classes was a more difficult matter. Using the course description provided through each observer's notes or through published materials from each school, the coders searched Appendix A: Classification of Secondary School Courses (High School and Beyond Course Offerings and Course Enrollments Survey [1982]: Data Files User's Manual prepared by National Opinion Research Center for National Center for Education Statistics in July 1983) for a descriptive match. The first four digits of the numeric designation for a particular course were used. For example, a course in Bookkeeping 1 was assigned the 4-digit code 0701 (see exhibit 18).

When more than one course code assignment appeared possible, the conflict was resolved by determining the overall intent of the course. For example, a course that was labeled "Psychology" (code 4201) was later determined, after reviewing materials supplied by the school involved, to encompass content more appropriately labeled "Personal and Social Development," (code 3501)

because the focus was on building human relationships. A list of these and similar decision rules was maintained to speed the coding process and to enhance the reliability of the resulting code assignments.

EXHIBIT 18

CODES FOR CLASSIFICATION OF SECONDARY SCHOOL COURSES IN NUMERICAL ORDER

Code #'s	Course Descriptions
06.1411	Merchandising and Sales Management
06.1500	Organizational Behavior, Other
06.1600	Personnel Management, Other
06.1700	Real Estate, Other
06.1711	Real Estate Marketing
06.1800	Small Business Management and Ownership, Other
06.1900	Taxation, Other
06.9900	Business and Management, Other
07.0100	Accounting, Bookkeeping, and Related Programs, Other
07.0111	Bookkeeping 1
07.0111	Bookkeeping
07.0111	Bookkeeping, Beginning
07.0112	Bookkeeping, Advanced
07.0112	Bookkeeping 2
07.0121	Accounting
07.0121	Accounting 1
07.0121	Clerical Accounting 1
07.0122	Clerical Accounting 2
07.0122	Accounting 2

Assigning the Data Identification Codes

Identification codes were affixed to the various source documents using a two-step process. The steps in the process were as follows:

- A General School Data Form was completed.
- Codes were written directly on the various source documents.

The completion of the General School Data Form afforded an opportunity to systematically inventory and organize all the instruments and forms contained in each of the expandable folders, to contact the site observer for missing information and to verify the exact name of the school and related contact persons. To complete the General School Data Form, staff assembled the following: (1) the completed Field-Site Representative's Preliminary Contact and Evaluation Guide form or any school publication with correct name and numbers; (2) Census Data Source Document (exhibit 17); (3) Site Schedule with numbers and kinds of vocational programs listed; (4) Classroom Observation Booklets (for information describing course content as well as teachers' names); (5) Principal Questionnaire which served as a back-up source for enrollment figures; (6) the Classification of Secondary School Courses; and (7) the list of observer identification numbers. Using these resources, a General School Data Form was completed with identification data for each school visited; the form was then placed in the school's folder for quick reference by those involved with data preparation or processing. See exhibit 19 for an example of a completed General School Data Form for a fictitious school.

The final step in completing the data identification process involved writing the appropriate codes on the front cover of each source document in each school's folder. In the case of the Classroom Observation Booklets, the coding format was preprinted on the cover and coders simply "filled in the blanks"; interview

EXHIBIT 19

EXAMPLE OF A COMPLETED GENERAL SCHOOL DATA FORM

GENERAL SCHOOL DATA

School Name and Address: Jones Occupational Center
203 Weber Hills Rd.
Jamestown, Texas 33221

School Telephone Number: 999-944-4600

Contact Person/Title: Nancy Fairchild

School ID Number: 039 PMSA Designation: 2163 State (2 letters): TX

Number of Programs in: CMSA Designation: — County Code: 077

Agriculture: 9 Business and Office: 6 Occup. Home Ec: 3

Marketing and DE: 2 Trade and Industrial: 8 Health: 2

Enrollment: 1984/85: 1,050 1985/86: 1,120

OBSERVED CLASSES DATA

Teacher ID #	Course Desig. Code	Teacher Name	Name of Class Observed
1	0807	Miss Kange	Merchandizing Careers
2	2301	Mrs. Moore	English
3	2601	Mr. Rogers	Graphic Communications
4	0901	Mr. Larson	Biology
5	0707	Mr. Barter	Business Careers
6	4702	Mr. Kloth	Refrigeration
7	1706	Miss Jenkins	Nurse's Assistant
8	1204	Mrs. Perone	Cosmetology

INTERVIEWER/OBSERVER

ID Number: 23 Name: Sharon Shulte

COMMENTS RE: UNIQUE CHARACTERISTICS

Please enter on the back of this sheet any comments you have (positive or negative) regarding the unique characteristics of the school and community.

and questionnaire forms, however, required handwritten notations as a preliminary step to preparing the instrument responses for keypunching. Following are examples of identification codes that would be written on the cover of an observation booklet and a principal questionnaire gathered from the fictional school noted on the General School Data Form (exhibit 19).

EXHIBIT 20

IDENTIFICATION CODES FOR A CLASSROOM OBSERVATION BOOKLET

FOR USE BY CODERS ONLY!

ID INFORMATION	Columns(s)	Code
School ID	1-3	039
PMSA	4-7	2163
State Abbreviation	8-9	TX
Type of Data	10	8
Observer ID	11-12	23
Course Code	13-16	2301
Teacher ID	17	2

EXHIBIT 21

IDENTIFICATION CODES FOR A PRINCIPAL'S QUESTIONNAIRE

Columns(s)	Code
1-3	039
4-7	2163
8-9	TX
10	1

Once codes had been noted on the various instruments and forms for purposes of identification, filing, and cross-referencing, it was necessary to examine and/or code specific responses on those instruments to ensure their accurate keying by the data entry operators. The following sections describe the procedures for "cleaning up" or readying the data for processing.

Coding the Interview Data

The principal, the guidance counselor, and the teachers whose classes were observed were all interviewed by the site observers. Different sets of questions were used for each of the three job classifications. The procedures for coding the three types of interviews, however, were the same and included the following steps:

- Checking written notes on interview forms for legibility and comprehensibility
- Developing a list of codes to reflect the most frequent responses to each question
- Assigning codes to the responses found on each interview form
- Transferring the codes to a coding form for keying

After a preliminary scanning of each set of interview forms, responses that appeared frequently were written in lists headed by coding form column numbers and then assigned a numeric value. Thereafter, codes were added for comments that appeared with reasonable frequency, taking care that each code not be unduly specific nor so general as to be meaningless. When codes were added, previously coded items were reevaluated in light of the new codes; changes were made as appropriate.

Although some changes in codes can be expected as coders become increasingly familiar with the interview responses, much time and effort can be saved if ample attention is devoted, before actual coding begins, to ensure that the range of codes is reasonable. This requires reading ample numbers of responses to each interview question. Also important is the familiarity of the coder with the critical issues under examination by the research project and the educational context within which the respondents function. Given this preliminary orientation, coders faced a minimum of changes and additions as they moved through the interview-coding process.

At the top of each interview form, the coder would write the identification codes as described in the previous paragraphs. The numbers of the columns in which the codes from each question's responses would be entered were then written down the left-hand side of the form. A question might have as many as eight columns assigned to it, depending on the number of parts or possible responses called for in the question. The actual responses to each of the interview questions were then studied and codes assigned. Once all of the interviews from a particular school were coded, they were set aside until a large number were completed. At that point, the codes were transferred to the coding sheets for data entry.

Exhibit 22 depicts the process of (1) assigning codes from the coding list to the interview responses, and (2) transferring those codes to the coding sheets used for keypunching.

EXHIBIT 22

PREPARING INTERVIEW RESPONSES FOR KEYPUNCHING

CODING LIST

ONE (MATERIALS PROUD OF) 18-19 20-21 TWO..(NEED) 22-23 24-25

01: Computer/software/word-processor
02: Job specific machinery/equip/tools
03. Physical plant, furniture, space
04: Audiovisual equip/visual aids
05: Farmland
06: Supplies
07: Role playing, simulations
08: Program components (field trips, self contained unit, individualized structure,
09: Textbooks, current materials, competency based materials
10: Quality of students: skills & attitudes learned in class
11: Preparation time/ time & money for prof. update
12: Class discussion, interaction, discipline managements
13: funding for program, youth organization
14: Increase time slotted for course
15: Assistance, more staff
16: Support from home school, administration, public relations
17: Teaching methods/ teacher's personal & professional skill, resources
18: Curriculum
19: Guest lectures
20: More students
21:

TEACHER INTERVIEW FORM

1-3 039 Interviewer Sharon Shuets Class English
4-7 2163
8-9 TX School Jones Occupational Center Teacher's Name Mrs. Moore
10 6 School Location Jamestown, Texas Date October 10 Time 10:00
11-14 23
15-16 2301
17 2

1. What materials, equipment, or other program components you use in your classes are you most proud of? Describe.

18-19 10 my students are highly motivated and win lots of contests
20-21

2. What kind(s) of materials, equipment, or other program components do you feel you need most for your classes (program)?

22-23 19
24-25 17 more time with guests and outside resources for students

CODING SHEET

0392163TX623230121 0 1917

Coding the Questionnaire Data

As described in the previous section, three different types of questionnaires were distributed at each school to the principal, the guidance counselor, and a teacher. After writing the identification codes (as described earlier) on the first page of each questionnaire, the coder's basic job was to ensure that the responses provided were legible, responsive, and properly formatted so as to enhance the accuracy and validity of the final data and their smooth entry by the data entry operators. Every effort was made to clarify the responses and to ensure their legibility so as to avoid having to eliminate them from the database.

Principal Questionnaire

A copy of the Principal Questionnaire is presented in appendix A. Generally, the respondents appeared to have no difficulty in understanding the questions and providing accurate, appropriate answers. Listed below are descriptions of some of the problems coders encountered with responses to specific items:

- Question 4. Frequently, the percentages given would not total 100 percent. When that occurred, the coder made mathematical adjustments based on the proportion of each part to the whole and multiplied by 100. For example:

Population Group	Original Figures	Adjusted Figures
American Indian or Alaskan Native	10%	10%
Asian American or Pacific Islander	15%	16%
Black, not of Hispanic Origin	15%	16%

Hispanic	15%	16%
White, not of Hispanic Origin	40%	42%
Other	0%	0%
	95%	100%

The percentage given for each of the original figures was divided by 95, then multiplied by 100.

- Questions 7 and 8. Respondents sometimes read "county" and "counties" as "country" and "countries." Their responses thus were considered invalid.

- Questions 15, 19, and 21. The same problem occurred with answers to this question as described in relation to question 4. The same solution was applied.

- Question 35. Not all answers to this question were given in Carnegie units, so calculations were made to convert the data. A second problem was that only two columns had been allotted for each subsection's response. Fractions, therefore, posed a problem. The solution was to code four credits as "40," one-half credit as "05," and one-fourth credit as "03" (1/4 = 0.25 = 0.30 or 03). Elective credits were listed under "(j) Other."

- Question 43--Again, only two columns had been allotted for responses. Therefore, "1.5" became "15" and "2" became "20."

Counselor Questionnaire

A copy of the Counselor Questionnaire is also provided in appendix A. In general, the respondents appeared to have no difficulty in understanding the questions. Responses requiring more adjustments than those typically needed for legibility purposes involved the following questions:

- Question 1. The coder checked to see that ranks had not been duplicated. If ranks were duplicated, all ranks up to that number were kept and the rest omitted.

- Question 2. If the percentages given did not total 100 percent, then each percentage was divided by the sum to which the percentage actually totaled and that figure was multiplied by 100.

- Question 20. The same approach was used as described above in relation to question 2.

Teacher Questionnaire

One version of the Teacher Questionnaire was completed by both vocational as well as nonvocational teachers. Questions 1-42, plus questions 73-76, were intended for all teachers; questions 43-72 were for vocational teachers only. Responses requiring more adjustment than those typically needed for legibility are discussed below:

- Question 1. The most frequent error associated with this question was for the respondent to use the current year as the year of birth. This response was treated as invalid.

- Question 6. The two letter abbreviation, as used by the U.S. Postal Service, was written in here if not used by the respondents.

- Question 11. Respondents would frequently write in the name of the subject matter rather than use the codes given. Also, respondents would sometimes use a code listed under "other areas of study" rather than "vocational education and related subjects." Coders chose the appropriate code based on given course descriptions.

- Question 16. The coder verified that only four items were properly ranked.

- Questions 37, 39, and 40 (a-f). See the explanation for question 2, Counselor Questionnaire.

- Questions 45 and 63. The coder checked for duplicative ranks. If ranks were duplicated, all ranks up to that number were kept and the rest were dropped.

Coding the Classroom Observation Records

The Classroom Observation Booklets were designed to facilitate the transfer of responses as much as possible to numerical values. However, because of their length and complexity, the Observation Booklets required more time for processing than the other instruments. The preparation of these booklets involved the following three steps:

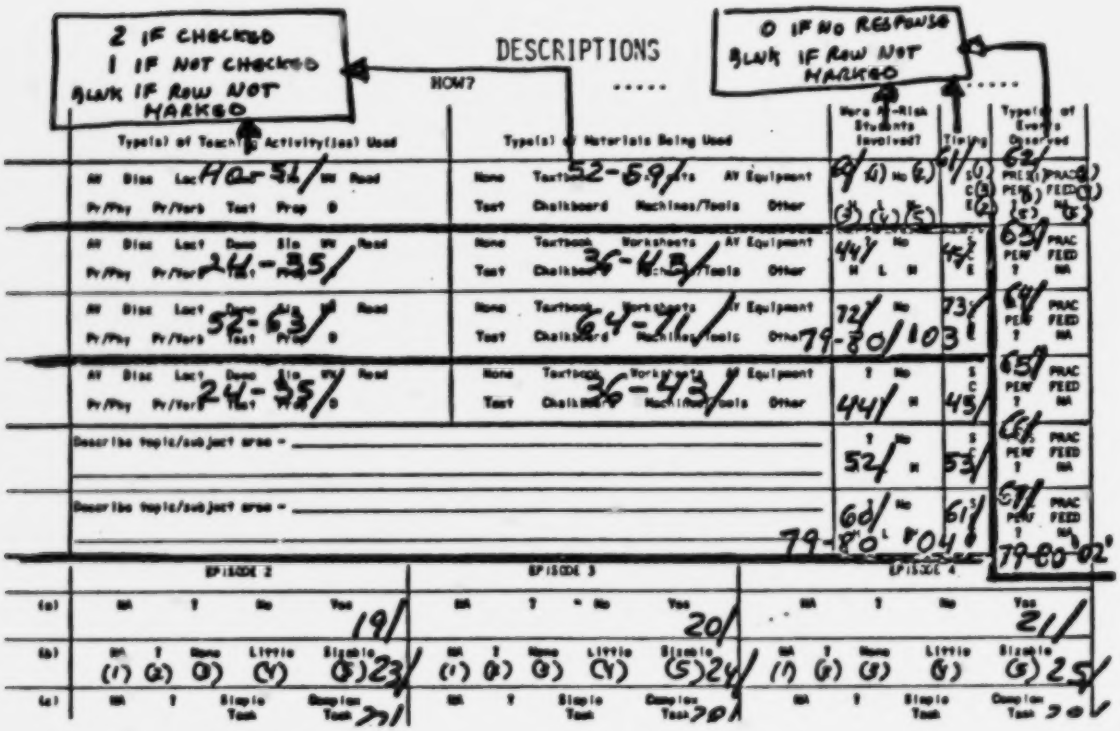
- Preparing a guide for the assignment of column and code numbers for the data entry personnel
- Checking the booklets for completeness
- Checking and adjusting the data for internal consistency

For the most part, the classroom data were reported in fixed response formats that required only that data entry operators be provided with a guide that described the respective numerical assignments. Such a guide was prepared using a blank Classroom Observation Booklet with instructions as to which columns and codes to use. See exhibit 23 for a sample of part of the keypuncher's guide.

Where site observers were asked to write comments about classroom dynamics, procedures for column assignment and coding were developed similarly to those used for coding the teacher, counselor, and principal interviews. Interpretation and coding of comments was not left to the data entry personnel, but rather were performed by coders as part of the checking and data identification procedure.

EXHIBIT 23

KEYPUNCHER'S GUIDE FOR A PORTION OF THE CLASSROOM OBSERVATION BOOKLETS



In addition to assigning codes to specific data elements in each Classroom Observation Booklet, coders verified that the booklet was accurately marked and that the data were internally consistent. Because the same information about a class could be noted in several different places, it was possible to check one description against another. For example, the sketch or description of the primary work area, as well as number and types of students enrolled, as indicated on the Initial Classroom Summary, were helpful in verifying that correct choices were made on the "snapshot" record. Other accuracy checks involved dates

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and times of the observations, sequence numbers for the "snapshots," and legibility of the data.

Checking the internal consistency of each episode within each snapshot was the next task. Episodes were first scanned to determine if they had been accurately placed in the instruction-related and noninstruction-related categories. The designated leader of each episode was checked for logic and consistency. For example, it was not logical that a teacher be interacting directly with six separate groups all at once at the instant the snapshot was taken, because, by definition, that would mean that all six episodes were really one.

The topic area identification number was checked against the description of the topic the observer could write in the Content Area or Focal Topic section. The number of students involved was totaled to ensure that the observer hadn't included more students than were enrolled in the class. (Frequently, especially in small group situations, the total of the number of students involved could be less than the number of students enrolled in the class, since a maximum of only six episodes could be described per snapshot.)

The next items to be checked were "Types of Teaching Activities Used" and "Type(s) of Materials Being Used." For these items, coders determined the compatibility of the circled items in these columns not only with each other, but also with the "Episode" column. For example, if "Sim" (simulation) was circled under "Type(s) of Teaching Activity(ies) Used," then it would be unlikely that "None" would be an appropriate response under

"Type(s) of Materials Being Used," or, if "Lect" (lecture) was circled, it would be unlikely that "Complex Writing" would be an appropriate choice under "Episode." If "Read" was the activity circled, then "None" was not an appropriate response regarding materials used, nor was "No Read" an appropriate response to question "h" for that particular episode.

Tracking the activities of at-risk students was sometimes difficult for the observer. In some cases, teachers were reluctant to point them out and some factors that place students in the at-risk category are not visible or otherwise obvious. However, if, in a class of 25 students, 12 students are handicapped and 20 students are present, the "H" under "Were At-Risk Students Involved" had to be circled if the episode comprised the entire class or at least the "?" should have been circled if the class was broken up into a number of groups. Also, it was obvious that one classroom or group within a classroom can have students with different risk factors. Therefore, codes were developed to cover various combinations of risk factors that might be represented in a graph.

If no item was circled under "Timing," the coder would attempt to ascertain from the previous as well as the following snapshot the appropriate response.

Determining the plausibility of the responses to "Type(s) of Events Observed" required the coder to refer to all the data coded about that episode in that snapshot. Multiple responses were possible.

The 12 questions to be completed in relation to each instruction-related episode were fairly easy to check. If four instructional episodes had been observed (for instance, if the students were divided into four small groups, each working on different tasks), the primary pattern of the interactions observed could be teacher-to-student for one group but not for all four groups.

Noninstructional episodes were reviewed by the coders in the same manner as instructional episodes. Just as the instructional episodes were reviewed to ensure that they were, indeed, descriptions of instruction, the noninstructional-related episodes were reviewed to ensure that they described episodes of a noninstructional nature.

The Post Observation Summary Form was uncomplicated to review. Question 1 was reviewed against what the observers indicated had been used in the snapshots. Generally, this caused additions to be made to the list of materials/tools used during the observation. The remainder of the form was checked to make sure that directions were followed, responses were legible, and minutes and percentages were calculated correctly.

Coding the Summary Data Forms

As noted in the previous section (see table 9 and appendix A), the purpose of the Summary Data Form is to serve as a vehicle for securing/summarizing existent school data related to 19 types of outcomes (e.g., students' average levels of basic skills achievement and indicators of their subsequent participation in

postsecondary training.) The form was typically completed by the site observers based upon information secured from discussions with key school staff and published school documents/reports.

During the coding process, the information contained on the forms, along with the appropriate school identification codes, were transferred to a set of special coding sheets that could be used directly by the data entry operators. In many cases, the coders were able to review and verify information on the forms based upon reports and other documents contained in the respective school folders. Typically, little information was available and the coder's major task was to verify that the information provided by the site observers was appropriately located on the data entry sheets. In several instances, however, schoolwide estimates needed to be calculated and entered based upon data supplied across curriculum areas either by the site observers or from available school documents.

Coding the Student Interviews

The Student Interview Forms were used to summarize/report the results of small-group interviews with five-six students in the various observed classrooms. Those forms (which are described in table 9) were, for the most part, completed by the site observers.

During the coding process, the first task undertaken involved writing the appropriate school, class, and instrument codes on the front covers of the respective instruments--similar to the identification code used for the Classroom Observation Booklets

that were described earlier. Then, the coders checked the different responses for legibility and to ensure that the numbers of students whose responses were recorded matched the numbers of students reported as being interviewed. For the most part, relatively few problems were noted. In several instances, the responses to item four were not expressed in minutes and had to be converted from hours to minutes. Also, on several forms, the responses to item six were all combined (on one part of the item) and, therefore, had to be disaggregated by the coders across the six parts of the the item. The responses to the various items on the interview forms were all written in the margins of the respective form by the coders in order to facilitate keypunching.

During the collection and subsequent processing of the student interview data, no effort was made to ensure that the orderings of responses by individual students across different items were always the same. For example, the first person whose response was recorded for item four was not necessarily the first person whose response was recorded for item five or for item six. This meant that the establishment of item-by-item relationships using students as the unit of analysis was not possible.

Coding the Syllabus Evaluation Forms

For the different classes they visited, the site observers were to complete a Syllabus Evaluation Form (see table 9). Their responses to the 12 items on that form were to be based upon a review of available school documents and discussions with appropriate school personnel (e.g., teachers and principals).

During the coding process, those responses were transferred to special coding sheets. As occurred with the other instruments and forms, the data for each class, when transferred to those special forms, were preceded by a unique class/school identification code such as that described earlier for the Classroom Observation Booklets.

Overall, few problems occurred during the coding process. The principal concern noted was the incidence of missing data. It appears that quite frequently (in both vocational and nonvocational classes) formal course syllabi are not routinely consulted, if available at all, by classroom teachers. Furthermore, in many cases the only descriptive documents that were readily available for review were relatively brief course outlines (which varied considerably in detail and quality).

Processing the Data

The actual processing of the project data, i.e., its transference from the respective source documents into a computer-readable form, which followed the coding activities just described, represented a major undertaking, since the total database required the keying of approximately 100,000 card images. Two basic strategies were used to complete that input task. Those strategies were to--

- keypunch the data either directly from the respective instruments/forms or from special coding sheets to cards or tape and subsequently read and transfer that information to magnetic tape files and

- enter the data via microcomputers directly from the respective instruments/forms onto floppy discs, upload those data onto the mainframe and subsequently transfer it to magnetic tape files.

In both cases, the initial keying of the data was checked for accuracy using standard, 100 percent verification procedures.

During the data-processing stage, the data were keyed on an instrument-by-instrument basis across the total sample of schools. For example, all teacher questionnaires were keypunched together as one substep in the processing. In addition, all data for a given instrument were entered using the same strategy, for example all teacher questionnaires were entered via the second strategy described earlier.

Checks on the Data

Immediately after the data were processed or inputted and temporary tape files created for each instrument or form, a series of preliminary checks was conducted. Those checks involved (1) evaluating individual data elements for errant and/or out-of-range values and (2) formulating logically related combinations of data elements (e.g., accumulating percentages specified for the subparts of an item to see if they totaled 100 percent) and reviewing the resulting composites for errant and for out-of-range values.

In those instances where apparent "errors" were identified, the associated identification codes were printed out, and project staff reviewed the related source documents to verify those errors. Overall, given the number of data elements evaluated,

very few errors were identified--less than 1 percent. Furthermore, in most instances, the errors that were noted were due to illegible writing on the part of either the coders or the site observers. In all cases, those errors were corrected or treated as invalid (if the appropriate responses could not be discerned) in the respective temporary data files.

During the data-checking process, particular attention was paid to the evaluations of the identification codes assigned to the various pieces of data (i.e., to each instrument or form). This additional caution was needed to ensure that during the generation of the set of data files, which would operationally define the project database, that data from the source documents for the same schools and classrooms could be reliably combined.

Creating the Master Data Files

Following completion of the data checks and corrections described above, three master data files, which constitute the project database, were created. As noted earlier, those three files were as follows:

- School File, which includes data about the community (from Bureau of Census and Bureau of Labor Statistics reports), principal questionnaire, principal interview, counselor questionnaire, counselor interview, and summary (outcome) data. In all, 496 variables for each of 120 schools are included in this file.

- Teacher File, which contains the teacher questionnaire data for both observed and nonobserved teachers. Each of the 2,251 records (at 1 record per teacher) in this file consists of a total of 267 variables.

- Classroom File, which contains the teacher questionnaire (observed teachers only), teacher interview (observed teachers only), student

interview, syllabus evaluation, and the classroom observation data. This file is by far the largest of the three and is defined by 2,682 variables for the 893 classrooms included in the file.

Listings of the variables in these different files (see appendix B) were developed for use during the ensuring data analyses.

Given the coding system used in identifying the different pieces of data in the project database, it is possible to define analyses that involve one or more data elements from the designated files, either individually or in combination. The three-file structure was used instead of one large single file in order to accommodate with greater efficiency analyses involving similar units of analysis, for example, classrooms, schools, and teachers. Furthermore, had a single file structure been used a substantial portion of the data contained in the school file would have been duplicated needlessly and considerable portions of each record (which would have been defined by the teachers' data) would have been blank, because classroom-related data were secured for only 893 of the 2,251 sampled teachers.

RESULTS

Overview

As is evident from the preceding materials, the current study represents a major data collection effort that could potentially spawn a myriad of secondary data analyses, not unlike what has occurred with the databases generated via "A Study of Schooling" (Goodlad, Sirotnik, and Overman 1979) and "High School and Beyond" (National Opinion Research Center 1983). Under the current scope of work, however, only a limited number of that set of potential analyses has been completed. Those completed analyses relate directly to the project objectives and different areas of policy concern described in section I. In all, 26 research questions, which are listed in table 14, were addressed by the project analyses. Also shown in that table are the correspondences among those different questions and both the project objectives and the areas of policy concern alluded to earlier.

This section provides summary descriptions of the analyses completed in relation to the questions listed in table 14, with each subsection focusing directly upon 1 of those 26 questions. Within each subsection a brief introduction to the question/concern being addressed is presented, followed by a table that summarizes the results of the associated data analyses. The table of empirical results is in turn followed by a brief summary interpretation of the implications of the statistical findings in relation to the specific question under consideration.

TABLE 14

OVERVIEW OF 26 RESEARCH QUESTIONS ADDRESSED

Objectives	Related Research Questions	Areas of Emphasis
(1) What goes on in vocational classrooms and related programs?	1a. To what extent are basic skills enhanced and reinforced in vocational classrooms/programs?	Basic Skills
	1b. What types of teaching activities and materials are used in vocational classrooms to help reinforce and enhance students' basic skills?	Basic Skills
	1c. To what degree are higher-order cognitive skills such as problem-solving taught in vocational classrooms?	Transferable Skills
	1d. How much emphasis in vocational programs is placed on fostering/improving students' employability skills and work habits?	Transferable Skills and Career Guidance
	1e. How dated are the skills being taught and the materials/equipment being used in vocational classrooms/programs?	Currentness of Curricula and Processes
	1f. Are secondary vocational curricula competency based?	Currentness of Curricula and Processes
	1g. Do vocational teachers use a larger variety of instructional methods and materials than teachers in other areas?	Currentness of Curricula nd Processes
	1h. To what extent are positive and negative feedback, reinforcement, and praise used in vocational classrooms?	Currentness of Curricula and Processes
(2) What factors seem to characterize and/or directly influence vocational classrooms/programs and what goes on in them?	2a. Is the relative emphais placed on basic skills reinforcement/enhancement different in area versus vocational speciality versus comprehensive high schools?	Basic Skills and Institutional Characteristics
	2b. Does the currentness of the job skills, materials, and equipment observed in vocational classrooms differ across different types of schools?	Institutional Characteristics and Currentness of Curricula and Programs
	2c. Do degreed vocational teachers use more of a variety of instructional activities and materials than do non-degreed teachers?	Teacher Education and Currentness of Curricula and Processes
	2d. How are reported changes in high school graduation requirements related to vocational enrollments across different types of schools?	Access and Equity and Institutional Characteristics
	2e. To what extent to students in vocational classes in different types of schools have access to counselors and selected counseling services?	Career Guidance

TABLE 14—*Continued*

Objectives	Related Research Questions	Areas of Emphasis
	2f What linkages exist between different types of schools that offer vocational programs and various community-based organizations (e.g., Private Industry Councils (PIC's)?	JTPA/CBO and Vocational Education Linkages
	2g How are institutional type, size, and location related to numbers and kinds of vocational program offerings?	Institutional Characteristics
	2h What kinds of professional improvement (inservice) opportunities are afforded vocational teachers and do those opportunities differ across different types of schools?	Institutional Characteristics and Teacher Education
	2i Are the personnel involved in the delivery of secondary vocational programs directly involved in community-wide economic development activities?	Economic Developoment
	2j To what extent is the preparation of students for entry into postsecondary institutions emphasized in different schools that offer vocational programs?	Postsecondary
	2k To what degree do articulation linkages exist between vocational programs at the secondary and postsecondary levels?	Postsecondary
	2l What kinds of inputs are solicited from business/industry and labor representatives and how are they used to improve secondary vocational programs?	Private Sector-Vocational Education Linkages
(3) How does what goes on in vocational classrooms/ programs relate to the learning needs of students from populations with special needs?	3a Is anything being done in different types of schools that offer vocational programs to identify, track, and address the unique needs of dropout prone and out-of-school youth?	Institutional Characteristics and At-Risk Students
	3b How much time do vocational teachers devote to preparation of alternative activities and materials to better meet the needs of at-risk students?	At-Risk Students
	3c Do the instructional materials and procedures used in vocational classes with higher concenteration of specific at-risk students differ from those used in classes with lower concentrations of such students?	Institutional Characteristics and At-Risk Students
	3d Are IEP's routinely developed for handicapped students in vocational programs across different types of schools and communicated to appropriate staff?	At-Risk Students
	3e How much training have vocational teachers received to prepare them to provide critical support services to LEP, handicapped, and other at-risk students?	At-Risk Students and Teacher Education
	3f To what extent are secondary vocational education programs and facilities used to meet the needs of adults and inmates?	Adults and Inmates

As should be evident from reviewing table 14, even though the set of analyses completed was limited compared to the potential set of analyses possible given such a large database, the resulting descriptive summaries are still quite extensive. For this reason a somewhat abbreviated method of presenting the findings was employed in the following subsections. It was assumed (1) that most readers would be more interested in the implications of the data related to the issues in question, rather than in seeing extensive statistical tables and in reading related literature reviews and (2) that if more extensive and/or extended analyses were desired, interested readers would probably need to analyze the database on their own and generate their own results related to the question(s) of interest.

To What Extent Are Basic Skills Enhanced and Reinforced in Vocational Classrooms/Programs? (Question 1a)

The current press for strengthening the basic skills components of vocational education programs can be traced in part to major changes, both in the nation's competitive posture and in the workplace itself, which occurred in the early 1980s. These broad, relatively rapid changes in the nation's economy and in the attendant skills needed by workers in that economy underscored the need for assessing the effectiveness of public education. This, in turn, led to the publication of numerous investigative and prescriptive reports on what was right and what was wrong with education in the United States, particularly secondary education. Such reports as Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools (Education Commission of the States

1983; Educating America for the 21st Century (National Science Foundation 1983), and A Nation at Risk (National Commission on Excellence in Education 1983) helped usher in a new educational reform movement referred to as the "excellence movement" (Bennett 1986).

As part of the excellence movement, many suggestions have been offered, but in general, excellence is equated with increased academic rigor for all students. A more classical curriculum is called for. Longer school days, school weeks, or school years are advocated. Higher student achievement scores are demanded. At the same time, many of the reform reports concurrently recommend greater access to quality education for minority students, females, and the handicapped.

The initial flurry of reform reports provoked a healthy debate of the issues, in an attempt to balance the ideal with reality. For example, Smith and Hester (1985) point out the inherent conflict between raising standards and increasing access. Cross (1984), as well as Smith and Hester, stress that a undimensional core of academic course work will not serve the diverse needs, interests, and abilities of the population of students the public schools are mandated to serve. Kadamas and Daggett (1986) argue that any dramatic improvements in the preparation of students, especially those who are not college bound, may require major changes in what is taught, when it is taught, and how it is taught, not simply increases in academic course requirements and higher test scores.

McDill, Natriello, and Pallas (1986) describe a number of the consequences of tougher school standards for high school dropouts. Furthermore, calling it the Achilles' heel of the resurgence of interest in education, Tucker and Mandel (1986) flagged the following shortcoming: little attention had been paid to the need for adequate vocational preparation of the two-thirds of the student population who never complete a college course of study. The National Commission on Secondary Vocational Education (1984) voiced similar concerns and, in addition, argued for a freely integrated vocational-technical/academic curriculum and against policies that track college and noncollege-bound students.

What is at issue here is not the need for improvement in education, including vocational education, but in the direction those improvements need to take. Furthermore, the urgency of this need for improvement has been heightened by rapid changes in technology, dramatic changes in the workplace, and major demographic shifts occurring in the U.S. population. With regard to vocational education, the reform debate and the kinds of changes noted suggest that vocational-technical education must respond in a positive manner to the major changes occurring in our economy and in the skills needed to succeed in that economy. Included among those needed skills are increased mastery of as well as heightened levels of skill attainment in such areas as math, science, and communications (reading, writing, speaking, and listening). Employers still want students with vocational skills, but they want students with the basics of math and English as well, according to Berryman in the article "Magnet Schools

Represent 'Serious' Attempt at Voc Ed Reform" (Vocational Training News) 1985. The results of a number of studies show that these basic cognitive skills and abilities are directly related to job performance (Hunter 1980; Hunter and Hunter 1982; Schmidt and Hunter 1981; Mikulecky and Winchester 1983; Mikulecky and Ehlinger 1986; Henry and Raymond 1982).

In addition, the reform reports, employers, and economic trends all point to the need for workers to possess higher-order thinking skills, problem-solving skills, decision-making skills--"skills," which according to The College Entrance Examination Board "will not only prepare them for their first jobs, but give them the resources to learn new jobs as technology and foreign competition change the workplace (1984)."

Congress responded to the need for improved basic skills instruction in vocational education by making it a major emphasis in the current vocational legislation, such as, the Carl D. Perkins Vocational Education Act of 1984 (P.L. 98-524). Under the Perkins Act, states may use funds for the conduct of special courses and teaching strategies designed to teach the fundamental principles of mathematics and science through practical applications that are an integral part of students' occupational programs. More generally, the Perkins Act supports the conduct of applied research and development that leads to effective methods and materials for providing quality vocational-technical education, including the reinforcement and enhancement of basic academic skills.

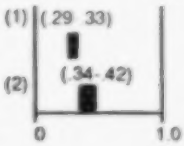
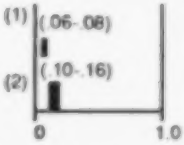
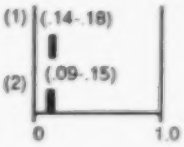
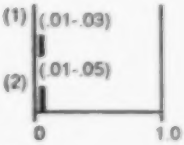
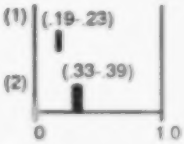
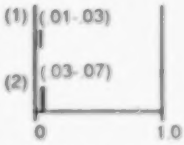
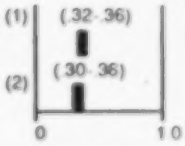
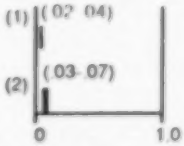
Given the importance being directed toward basic skills enhancement and reinforcement in vocational-technical programs, a number of items were included in the survey instruments that dealt with this issue. The observations provided data pertinent to two basic questions: (1) How often were basic skills an explicit focus or topic of instruction in vocational classrooms? and (2) How frequently were basic skills observed as part of the teaching-learning process in vocational classrooms, even though not necessarily an explicit focus of that instruction? The teacher questionnaires contained six items dealing with the relative priorities teachers report assigning to basic skills reinforcement/enhancement in their classes and to the relative amounts of class time they spend on those skills. The analyses of the data collected on these different items are summarized in figure 9.

The results presented in figure 9 suggest the following:

- During approximately 60 percent of the "snapshots" taken in vocational classes, some type of basic skill was noted as part of the ongoing instructional activities being observed, which was lower than the 70 percent noted in nonvocational classes (including math, science and English classes).

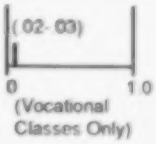
- The greater emphasis on basic skills observed in nonvocational classes over vocational classes occurred primarily in the areas of reading and writing, whereas in the area of simple math, the emphasis was greater in vocational classes; in the area of speaking the emphasis was about the same in both types of classes.

- The emphasis placed on basic skills as an explicit instructional goal or objective in vocational classrooms is approximately 3 percent, which is substantially lower than the relative frequency (60 percent) with which those skills were observed in such classrooms, as noted above.

INDICATORS	RESULTS**	
• Proportion of episodes in which one or more basic skill was addressed.	(1) Vocational Classrooms $\bar{p}$=.62 s=.29 n=649 (2) Nonvocational Classrooms $\bar{p}$=.71 s=.22 n=244 COMPARISON: t=-4.95, which is significant at α=.05 level.	
• Proportion of episodes in which simple or complex reading was involved.	-SIMPLE READING (1) Vocational Classrooms $\bar{p}$=.31 s=.30 n=649 (2) Nonvocational Classrooms $\bar{p}$=.38 s=.23 n=244 COMPARISON: t=-3.30, which is significant at α=.05 level.	
	-COMPLEX READING (1) Vocational Classrooms $\bar{p}$=.07 s=.16 n=649 (2) Nonvocational Classrooms $\bar{p}$=.13 s=.22 n=244 COMPARISON: t=-4.09, which is significant at α=.05 level.	
• Proportion of episodes in which simple or complex math concepts/ operations were involved.	-SIMPLE MATH (1) Vocational Classrooms $\bar{p}$=.16 s=.25 n=649 (2) Nonvocational Classrooms $\bar{p}$=.12 s=.25 n=244 COMPARISON: t=-2.42, which is significant at α=.05 level.	
	-COMPLEX MATH (1) Vocational Classrooms $\bar{p}$=.02 s=.09 n=649 (2) Nonvocational Classrooms $\bar{p}$=.03 s=.14 n=244 COMPARISON: t=-1.19, which is not significant at α=.05 level.	
• Proportion of episodes in which simple or complex writing was involved.	-SIMPLE WRITING (1) Vocational Classrooms $\bar{p}$=.21 s=.25 n=649 (2) Nonvocational Classrooms $\bar{p}$=.36 s=.26 n=244 COMPARISON: t=-7.96, which is significant at α=.05 level.	
	-COMPLEX WRITING (1) Vocational Classrooms $\bar{p}$=.02 s=.08 n=649 (2) Nonvocational Classrooms $\bar{p}$=.05 s=.12 n=244 COMPARISON: t=-3.56, which is significant at α=.05 level.	
• Proportion of episodes in which simple or complex speaking was involved.	-SIMPLE SPEAKING (1) Vocational Classrooms $\bar{p}$=.34 s=.27 n=649 (2) Nonvocational Classrooms $\bar{p}$=.33 s=.25 n=244 COMPARISON: t=.60, which is not significant at α=.05 level.	
	-COMPLEX SPEAKING (1) Vocational Classrooms $\bar{p}$=.03 s=.09 n=649 (2) Nonvocational Classrooms $\bar{p}$=.05 s=.13 n=244 COMPARISON: t=-2.30, which is significant at α=.05 level.	

** The graphs shown depict 95% confidence intervals for each of the designated variables and types of classrooms (i.e., 1=vocational and 2=nonvocational).

Figure 9. Results related to research question 1a–To what extent are basic skills enhanced and reinforced in vocational classrooms/programs?

INDICATORS	RESULTS**
• Proportion of episodes observed in vocational classes in which the content area or focal topic is basic skills.	$\bar{p}$=.023 s=.084 n=649 
• Priority rating assigned to basic skills development as a teaching goal [ranging from 1=not checked (i.e., not a major goal) to 4=highest priority].	(1) Vocational teachers: $\bar{x}$=.91 s=1.36 n=1120 (2) Nonvocational teachers: $\bar{x}$=1.31 s=1.09 n=860 COMPARISON: t=-7.40, which is significant at α=.05 level.
• Number of writing assignments of at least one page each assigned during a typical month.	(1) Vocational teachers: $\bar{x}$=2.3 s=1.29 n=1287 (2) Nonvocational teachers: $\bar{x}$=2.6 s=1.49 n=930 COMPARISON: t=-4.58, which is significant at α=.05 level.

• Amount of class time spent during a typical week on the reinforcement/enhancement of students'. . .

	(1) Vocational Teachers			(2) Nonvocational Teachers			
	$\bar{x}$	s	n	$\bar{x}$	s	n	COMPARISONS
--Reading Skills.	2.29	1.01	1280	2.61	1.26	923	t=-6.36*
--Mathematics Skills.	2.44	1.05	1273	2.06	1.40	882	t=6.70*
--Writing Skills.	2.08	.92	1273	2.56	1.24	918	t=-9.89*
--Language Skills.	2.20	1.06	1269	2.69	1.32	900	t=-9.28*

*Significant at α=.05 level.

• Minutes of class time during a routine week spent on. . .

		Average Number Minutes	s	Proportion of Time Spent	COMPARISONS
-- Listening to lectures or other class presentations and class discussions.	(1) Vocational Classes	106.6	124.1	.14	t=.17
	(2) Nonvocational Classes	107.6	135.9	.27	
-- Applying math skills to practical problems.	(1) Vocational Classes	39.4	65.3	.05	t=2.0*
	(2) Nonvocational Classes	31.7	103.9	.07	
-- Reading course-related materials in books, manuals, or workbooks, worksheets, etc.	(1) Vocational Classes	61.5	75.3	.08	t=.31
	(2) Nonvocational Classes	62.9	125.7	.15	
-- Writing essays, themes, business letters, etc.	(1) Vocational Classes	14.0	45.1	.02	t=3.61*
	(2) Nonvocational Classes	28.2	123.7	.06	
-- Speaking, making presentations, etc.	(1) Vocational Classes	14.6	35.0	.02	t=2.42*
	(2) Nonvocational Classes	20.3	69.1	.04	

* Significant at α=.05 level.

Figure 9--*Continued*

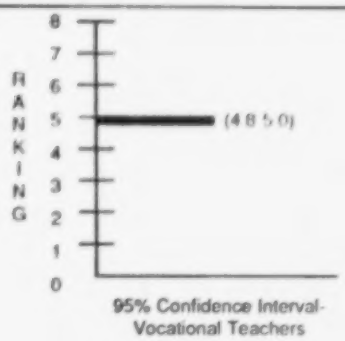
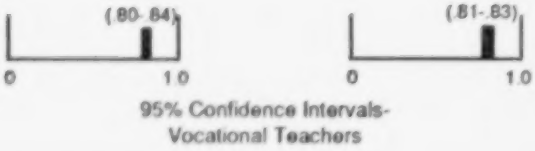
INDICATORS	RESULTS**
• Average ranking (ranging from 1=most important to 8=least important) given by vocational teachers to the goal, "To enhance and reinforce students' basic skills (e.g., basic math, reading)."	$\bar{r}$=4.87 s=1.84 n=1068 
• Proportion of vocational teachers reporting that remedial instruction is available to their students in --_____-- where 0=no and 1=yes.	--Basic Reading-- $\hat{p}$=.82 n=1142 --Basic Math-- $\hat{p}$=.83 n=1139 

Figure 9–*Continued*

- Vocational teachers rate basic skills as their fifth instructional goal/priority (out of eight), a rating that is not as high as that assigned by non-vocational teachers.

- Vocational teachers report spending a total of about 40 percent of their class time on basic skills-related instruction, which is less than that reported by nonvocational teachers.

Generally, the preceding observation results, along with perceptions obtained from the field observers, confirm that basic skills are an inherent part of most vocational skills, and hence, one can expect to observe such skills as part of vocationally related instructional programs. At the same time, however, they suggest that vocational teachers seldom take advantage of these naturally occurring opportunities to reinforce and enhance their students' basic skills explicitly. Not only are the opportunities to strengthen such skills often lost, but in many cases the related observer perceptions suggest that vocational teachers do a relatively poor job of addressing the basic skills in question when they are encountered during the instructional process (e.g., they assume students know how to perform the skills or they simply give them the answer, since "teaching basic skills is not (their) job.") Few explicit attempts are normally made to resolve students' problems before continuing the lesson or to facilitate transfer of the basic skills learned across vocational and nonvocational classes. These shortcomings appear to exist across all basic skills areas, but are particularly evident in the areas of reading and writing, and considerable improvement is required if the intent of the Perkins Act and societal/economic needs that

gave rise to that legislative intent are to be adequately addressed.

What Types of Teaching Activities and Materials Are Used in Vocational Classrooms to Help Reinforce and Enhance Students' Basic Skills? (Question 1b)

The Perkins Act, in addition to its mandate regarding the need for increased emphasis on basic skills instruction in vocational settings, stresses the need for applied research that will help to identify and/or lead to the development of successful methods for bringing about the increased reinforcement and enhancement of vocational students' basic skills. Several elements that are often used when operationally defining differences among instructional methods (Joyce and Weil 1980; Medley, Coker, and Soar 1984) are--

- the organization of the classroom or learning environment during instruction (e.g., who is the "leader" of instruction, how are students grouped/arrayed during the teaching-learning process, and what types of interactions occur as part of that process),
- the types of activities used to "deliver" instruction, and
- the kinds of instructional materials that are used to facilitate learning.

As indicated by these elements, different methods of instruction generally vary in terms of WHO is doing WHAT to WHOM, HOW?

Given the preceding perspective, it was assumed that one of the preliminary steps toward identifying and/or developing successful methods of basic skills instruction in vocational settings might be to characterize how the methods, activities, and materials are used when basic skills are observed as part of the

instruction that was being observed. Those items were for the most part contained in the project-related observation instruments and basically addressed the general question WHO is doing WHAT to WHOM, HOW? The results observed in relation to the indicated items are summarized in figure 10.

The results presented in figure 10 suggest that when basic skills are observed as part of the instruction occurring in vocational classrooms, the following happens:

- It is somewhat more likely for the teacher to be "leading" the instructional effort than when such skills are not observed.
- The number of students involved is somewhat larger than the number involved when basic skills are not observed.
- The use of textbooks, worksheets, AV equipment, the chalkboard, tests, and other types of materials is more prevalent than their use when basic skills are not observed.
- One is significantly more likely to observe a discussion, lecture, demonstration, simulation, written work, reading, practice (physical and verbal) or a test occurring than when no basic skills are observed.
- The tasks being worked on are viewed as somewhat more complex than the tasks being worked on when no basic skills are observed.
- The primary pattern of interaction noted is from the teacher to students, while in those cases where no basic skills are observed more student-to-student interactions are noted.

These results suggest that when basic skills are observed as part of the teaching-learning process occurring in <u>vocational classes</u>, it is more likely that the teacher is an active participant in the process (e.g., via discussions, lectures,

INDICATORS (Variables)	RESULTS

- The "leader" of instruction during episodes when basic skills are being addressed.

TYPES OF EPISODES	PROPORTIONS: Teacher	Aide	Other Adults	Ind. Student
(1) Basic Skills	.50	.01	.01	.48
(2) No Basic Skills	.41	.01	.01	.57

COMPARISON: X^2=10.64, which is significant at α=.05 level.

- Average number of students involved during episodes when basic skills are being addressed.

TYPES OF EPISODES	STATISTICS: $\bar{x}$	s	n	COMPARISON
(1) Basic Skills	8.2	6.01	493	t=2.02, which is significant at α=.05 level.
(2) No Basic Skills	7.5	6.25	517	

- Groupings of students occurring during episodes when basic skills are being addressed.

TYPES OF EPISODES	PROPORTIONS: Ind. Student	Sm. Group	Lg. Group	Class
(1) Basic Skills	.34	.28	.03	.35
(2) No Basic Skills	.41	.26	.02	.31

COMPARISON: X^2=5.12, which is not significant at α=.05 level.

- Types of materials used during episodes when basic skills are being addressed.

MATERIALS	PROPORTIONS BY TYPES OF EPISODES (1) Basic Skills	(2) No Basic Skills	COMPARISONS
-- Textbooks	.098	.008	z=10.38*
-- Worksheets	.187	.013	z=14.51*
-- AV Equipment	.040	.018	z= 3.61*
-- Test	.036	.004	z= 6.12*
-- Chalkboard	.062	.008	z= 8.92*
-- Machines/Tools	.259	.226	z= 1.80*
-- Other Materials	.153	.066	z= 7.20*
-- None	.045	.023	z= 4.16*

*Significant at α=.05 level.

- Types of instructional events observed during episodes when basic skills are being addressed.

INSTRUCTIONAL EVENTS	PROPORTIONS BY TYPES OF EPISODES (1) Basic Skills	(2) No Basic Skills	COMPARISON
(a) Presentation	.22	.22	
(b) Practice	.42	.49	X^2=7.34, which is not significant at α=.05 level.
(c) Performance	.14	.14	
(d) Feedback	.05	.02	
(e) Some combination of a,b,c, and d	.17	.13	

Figure 10. Results related to research question 1b–What types of teaching activities and materials are used to help reinforce/enhance students' basic skills in vocational classes?

INDICATORS (Variables)	RESULTS

- Types of activities used during episodes when basic skills are being addressed.

ACTIVITIES	BY TYPES OF EPISODES: (1) Basic Skills	(2) No Basic Skills	COMPARISONS
-- AV Presentation	.020	.016	z= .91
-- Discussion	.137	.011	z=13.81*
-- Lecture	.113	.029	z= 9.29*
-- Demonstration	.040	.021	z= 3.59*
-- Simulation	.019	.005	z= 3.27*
-- Written Work	.092	.003	z=11.19*
-- Reading	.070	.002	z= 9.62*
-- Practice/Physical	.274	.233	z= 2.23*
-- Practice/Verbal	.034	.001	z= 7.29*
-- Test	.034	.002	z= 6.73*
-- Preparation for Assignments	.013	.013	z= .06
-- Other Activity	.015	.010	z= 1.68

* Significant at α=.05 level.

- Complexity of tasks worked on during episodes when basic skills are being addressed.

TASK COMPLEXITY	BY TYPES OF EPISODES: (1) Basic Skills	(2) No Basic Skills	COMPARISON
-- Simple	.65	.72	χ^2=6.08, which is significant at α =.05 level.
-- Complex	.35	.28	

- Types of interactions occurring during episodes when basic skills are being addressed.

INTERACTION OBSERVED	BY TYPES OF EPISODES: (1) Basic Skills	(2) No Basic Skills	COMPARISON
-- Teacher to Students	.55	.49	
-- Student to Teacher	.05	.03	χ^2=10.75, which is significant at α=.05 level.
-- Student to Student	.29	.35	
-- Other	.11	.13	

Figure 10--*Continued*

demonstrations, and the assignment of specific reading and/or writing tasks), that one or more of the traditional types of instructional materials (e.g., texts, worksheets, chalkboard) are being used, and that a slightly larger group of students is being directly impacted as part of that process. It also appears that when basic skills are not observed as part of the teaching-learning process the participating students are somewhat more likely to be working individually with some type of machine/tool and practicing some skill or task. This latter perspective may be due somewhat to limitations in the observation process used and the fact that it was not possible for observers to keep track and document the specific activities of each individual student during each snapshot. Furthermore, when students were working individually the observers' ability to inspect their specific actions publicly and the focus of those actions was quite difficult without engaging in an extended dialogue.

Generally, these findings reaffirm the pervasiveness of basic skills as part of most vocational tasks/activities, and although they provide no clearcut indications of specific instructional techniques that could be assumed to be more successful than others, they tend to support the need for vocational teachers to make basic skills a more explicit part of their instructional efforts. At the same time, they suggest that the strategies used to foster such skills should be part of the immediate, overall pedagogical repertoire of vocational teachers. For example, they need to know how to identify and diagnose students' basic skills deficiencies when teaching via the discussion mode and what to do

at that point to try to address those deficiencies in an explicit manner. In some cases they will need to teach students to "unlearn" and replace inappropriate/incorrect procedures, whereas in others they will need to help them transfer what they have learned previously to the context defined by the task or problem with which they are now confronted. Even if more vocational teachers were skilled in identifying specific basic skills deficiencies of their students (in the "language" of those responsible for teaching and/or remediating basic skills) and routinely communicated and worked with basic skills specialists to resolve those problems, a major step would have been taken toward realization of one of the emphases in the Perkins Act.

To What Degree Are Higher-Order Cognitive Skills Such As Problem-Solving Taught in Vocational Classrooms? (Question 1c)

Increasingly, the ability to think and learn in the context of the workplace is considered to be one of the basic assets of successful employees (Brandt 1983; Panel on Secondary School Education for the Changing Workplace 1984). According to Teske (1986),

> eighty-seven percent of business executives and more than 90 percent of the public polled believe that all students, not just those who are college bound, will need to write and reason well, really understand math, science and technology and be able to use what they know, understand our complex society in order to be effective citizens, learn how to figure out what they need to know and how to find it out, and be educated people who can figure their way creatively through tough problems. (p.2)

Furthermore, such skills are seen as part of the "new basics" needed by all students (National Science Foundation 1983).

As interest in the development of thinking skills has become more intense, the inadequacies in our current efforts to foster, as well as to assess attainment of, these skills has become very apparent, particularly in relation to the vast majority of students served by our educational system. Attempts to give more attention to higher-order thinking in our schools face many obstacles: texts and tests that require teachers to cover vast amounts of material, as well as large class sizes and teaching loads that make it difficult to interact in a one-on-one way with students (National Center on Effective Secondary Schools 1986).

The situation has been described by Quellmalz (1985) as follows:

> The call for attention to higher-order thinking skills remains throughout the educational system. Educators, policymakers, and the public agree that higher-order skills are important but neglected in curricula and tests and, therefore, underdeveloped in students. We have sufficient rhetoric and evidence to establish the need for renewed emphasis on higher-order skills; what we lack is consensus on what higher-order thinking is, or how to measure its outcomes, and how to teach it. Furthermore, despite the lip service paid to the significance of higher-order thinking skills, administrators, teachers, and students may view thinking skills as tangential to required courses of study, as appropriate only for older, high achieving students, or as too demanding of time and effort. (p.1)

The need for improvements in our schools' efforts to enhance higher-order thinking skills was highlighted by the results of a study reported by Fleming and Chambers (1983), which involved an analysis of tests developed by teachers in a large metropolitan school district. Basically, they found that of the thousands of

test items they analyzed, very few tested students' ability to apply higher-order thinking skills--to analyze available knowledge, to draw inferences about or with newly learned information, to draw conclusions, or to support evaluative judgments.

At the same time, the National Assessment of Educational Process (NAEP) reported that rather than improving in these areas, students were doing less well than students of just a few years ago. For example, the percentage of 17-year-olds able to determine the mood of a written passage dropped 10 points between 1971 and 1980; the percentage of those who succeeded in completing exercises testing the understanding of mathematics declined by 4 points between 1973 and 1978; and the percentage of those judged competent in writing a persuasive statement dropped 6 points between 1974 and 1979 (Gisi and Forbes 1982).

In a more recent NAEP study of young adults (Kirsch and Jungeblut 1986), it was found that only 10-40 percent of the respondents were able to perform complicated, multistep occupational literacy tasks. Those tasks, which are required in a growing number of service and technical occupations, included orally interpreting distinctions between two types of employee benefits and calculating, as well as totaling, costs from catalogs.

With regard to vocational education's role in addressing students' needs for improved higher-order cognitive skills, opinions seem to be somewhat divided. At one end of the continuum is the general view held by students, staff, and the general

public that vocational courses are a time for doing not thinking; are easy not difficult; and are practical not abstract, whereas courses in physics, mathematics, or civics are time for thinking not doing; are difficult not easy; and are abstract not practical (The National Commission on Secondary Vocational Education 1984). Such a perspective leads to arguments by some researchers that the existing vocational education system is outdated and needs to give way to a more generalized teaching of the higher-order thinking skills needed in the workplace (Education Daily 1987). Others note that the vocational system, by virtue of its association with "low track" students, involves activities and skills that are far less challenging, less stimulating and effective, and at a lower level of cognitive processing than those required in "high track" classes (Oakes 1980; Boyer 1983). In contrast to such arguments, advocates of vocational education contend that vocational programs involve the teaching of problem solving and other higher-order analytical skills, not just simple rote tasks (The National Commission on Secondary Vocational Education 1984).

Generally these conflicting claims have been based largely upon anecdotal information and inferences drawn from a limited number of research studies, many of which were severely limited in their representation/consideration of vocational programs and/or vocational students. With this limitation in mind, a number of items were included in the project instruments that would yield additional, more systematic data regarding this critical issue. A major subset of those items was part of the observation instruments. Although several items in that subset may at first

glance appear to be only tangentially related to complex, higher-order cognitive processing, they were included because of their hypothesized relationship to such skills as suggested by advances in the field of cognitive psychology--see exhibit 24 for a summary listing of a number of those developments, several of which led to the inclusion of the indicated items as part of the observations. Several other items related to the issue in question were included in the teacher and principal questionnaires. The analyses of the data secured via these different items are summarized in figure 11.

The results presented in figure 11 indicate the following:

- Students in vocational classes are frequently engaged in activities that are hypothesized as being related to and/or part of different higher-order cognitive processes (such as problem solving).

- Students in vocational classes are significantly more likely than students in nonvocational classes to be engaged in completing different types of projects, which many times have characteristics similar to those needed in doing problem-solving tasks.

- Students in vocational classes were noted by the observers as being involved in application and synthesis activities significantly more often than students in nonvocational classes, as being involved in analysis-related activities significantly less often than other students, and as being involved in evaluation types of activities about as frequently as the students in other classes.

- Vocational teachers report spending significantly more class time per week on tasks/activities that involve problem solving, synthesis, evaluation, and such than did nonvocational teachers.

- Principals felt that students receive significantly more experience in problem solving, evaluation, synthesis, etc. in college preparatory classes than in vocational classes and significantly more such experience in vocational classes than in general education classes.

EXHIBIT 24

GENERAL UNDERSTANDINGS EVOLVING FROM THE COGNITIVE SCIENCE LITERATURE

- The human cognitive system intervenes between the teaching-learning environment and behavior, controlling learning and problem solving.

- Learning involves combining bits and pieces of information into "coherent chunks" of knowledge that are then combined into network structures of even larger chunks for use in problem solving and future learning.

- Learning is an active, constructive process, rather than a memorizing process, requiring deep, elaborative thinking to create knowledge structures for retention and transfer of knowledge and skill.

- Learners control their learning and behavior with the knowledge structures, thinking skills, and learning skills they possess.

- More-able learners and expert problem solvers have more accessible knowledge and cognitive skills than less-able learners and novice problem solvers.

- Intelligent problem solving involves metacognitive processes, that is, general controlling processes, such as--

  -- planning and decision making,
  -- problem representation, and
  -- self-controlling processes

- Intelligent problem solving requires extensive, accessible conceptual and procedural knowledge.

- General problem-solving processes, such as planning, decision making, and problem representation skills, seem important for solving--

  -- novel problems,
  -- ill-defined problems, and
  -- problems when the problem solver has little or no conceptual knowledge about the problem.

- Self-monitoring skills seem important for learning and solving all types of problems well.

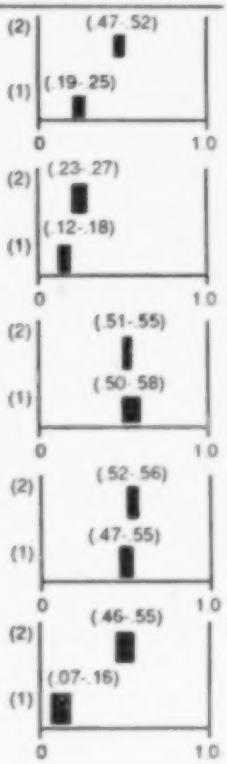
- Cognitive knowledge structures and processes can be identified through--

  -- introspection (thinking out loud) and
  -- inquiry by a teacher, parent, or peer about the thinking or learning processes being used.

- Cognitive knowledge structures and processes can be specified and represented with semantic network diagrams, production systems, flow--charts, and programs.

SOURCE: Laster 1985, pp. 41-42.

INDICATORS (Variables)	RESULTS**
• Proportion of episodes in which students had **sizable** automony in carrying out tasks.	(1) Vocational Classrooms $\bar{p}$=.50 s=.31 n=649 (2) Nonvocational Classrooms $\bar{p}$=.22 s=.25 n=244 COMPARISON: t=13.60, which is significant at α=.05 level.
• Proportion of episodes in which students were working on **complex** (multi-part) tasks.	(1) Vocational Classrooms $\bar{p}$=.25 s=.29 n=649 (2) Nonvocational Classrooms $\bar{p}$=.15 s=.24 n=244 COMPARISON: t=-5.20, which is significant at α=.05 level.
• Proportion of episodes in which students were involved in carrying out **complex** instructions.	(1) Vocational Classrooms $\bar{p}$=.53 s=.31 n=649 (2) Nonvocational Classrooms $\bar{p}$=.54 s=.31 n=244 COMPARISON: t=-.21, which is not significant at α=.05 level.
• Proportion of episodes in which students were required to make a judgement or evaluation.	(1) Vocational Classrooms $\bar{p}$=.54 s=.31 n=649 (2) Nonvocational Classrooms $\bar{p}$=.51 s=.30 n=244 COMPARISON: t=1.03, which is not significant at α=.05 level.
• Proportion of classes in which students were involved in completing some type of project.	(1) Vocational Classrooms $\bar{p}$=.50 s=.50 n=467 (2) Nonvocational Classrooms $\bar{p}$=.12 s=.32 n=174 COMPARISON: t=11.60, which is significant at α=.05 level.



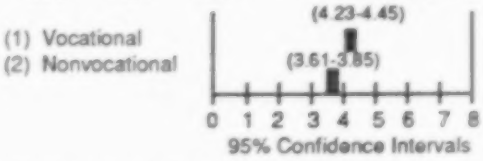
• Proportion of classes in which students were required to demonstrate the following skills: application, analysis, sythesis, or evaluation.

TYPES OF CLASSES	PROPORTIONS BY SKILLS: Application	Analysis	Synthesis	Evaluation
(1) Vocational Classes	.75	.43	.41	.45
(2) Nonvocational Classes	.62	.55	.23	.37

COMPARISON: Z=3.17, Z=-2.75, Z=2.75, and Z=1.86, respectively, where Z≥1.96 is significant at α=.05 level.

• Number of hours per week that teachers report spending on tasks/activities that involved problem solving, evaluation, synthesis, etc. (where 1=0 hrs, 2=less than 1 hr, 3=1 to 2 hrs, 4=2+ to 3 hrs, 5=3+ to 5 hrs, 6=5+ to 10 hrs, and 7=over 10 hrs.)

TYPES OF CLASSES	STATISTICS: $\bar{x}$	s	n	COMPARISON
(1) Vocational	4.34	1.67	904	t=7.29, which is significant at α=.05 level.
(2) Nonvocational	3.73	1.51	613	



** The graphs shown depict 95% confidence intervals for each of the designated variables and types of classrooms (i.e., 1=vocational and 2=nonvocational).

Figure 11. Results related to research question 1c--To what degree are higher-order cognitive skills such as problem-solving taught in vocational classrooms?

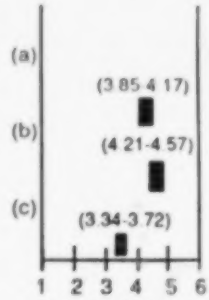
INDICATORS (Variables)	RESULTS

- Estimated experience principals feel their students receive in problem solving, evaluation, synthesis, etc. in their vocational classes, "general" classes and college preparatory classes (2=none, 3=little., 4=between a little and a lot, and 5=a lot.)

TYPES OF CLASSES	STATISTICS* $\bar{x}$	s	n
(a) Vocational	4.01	.70	73
(b) College Preparatory	4.39	.72	59
(c) General	3.53	.70	51

	Average Rank	n
(a) Vocational	2.02	
(b) College Preparatory	2.50	49
(c) General	1.48	

COMPARISON: X^2=25.54, which is significant at α=.05 level.



95% Confidence Intervals

* The first set of statisics listed as well as the confidence intervals shown are for **all** classes in each of the 3 designated categories (i.e., a, b, and c) without regard to the dependencies existent in the data (i.e., to the fact that each principal responded for each type of class that could be found in his/her school). The average rankings and x^2 comparison (via the Friedman Test) shown are for the 49 comprehensive schools sampled in which the principals provided data on all three types of classes.

Figure 11--*Continued*

Generally, the preceding results indicate that students in vocational classes are frequently provided more opportunities than students in general education classes to practice and use different higher-level cognitive skills (e.g., application, synthesis, and problem-solving skills). Such results are in keeping with the position described by Mikulecky (1986)--that most jobs call for literacy and computation skills that involve the use of higher-level application and metacognitive processes (e.g., setting purposes, self-questioning, summarizing, and monitoring), which differ from the processes emphasized in traditional (general education) classrooms.

As in the case of basic skills, however, the availability of opportunities to improve students' higher-order cognitive skills does not necessarily mean that vocational teachers and students routinely capitalize on those opportunities. Although the project data do not contain specific outcomes dealing with students' ability to utilize and/or transfer such higher-order skills, from an observer's perspective there appeared to be relatively little explicit effort on vocational teachers' parts directed toward enhancing such skills. Teachers appeared to focus the majority of their attention on students completing well-defined tasks in a rather narrow way, with relatively little attention given to the transference of the skills learned. The emphasis seemed to be focused on acquisition of specific knowledge and psychomotor skills needed to solve an immediate problem or to complete a specific project--for example, learning how to repair a particular problem with a carburetor, but not how to transfer what is learned

to the diagnosis and repair of the same or a similar problem in a variety of carburetors, nor to show how that problem is related to other aspects of engine performance and repair.

An exception to the preceding perception occurred in relation to teachers'/students' involvement in vocational clubs. In such cases teachers seemed "looser," not as narrowly focused, and not as preoccupied with students' acquisition of specific facts or narrow psychomotor skills. They seemed more willing to "open up" the problems posed for students and to allow them more latitude in addressing those problems. In the settings where such an approach was used, students and teachers appeared to be more positive and the skills being fostered more transferable and comparable to those needed in related occupational roles.

In summary, it appears that opportunities to teach higher-order cognitive skills occur quite often in the context of vocational classrooms. At the same time, however, it appears that vocational teachers do not take full advantage of those opportunities to <u>teach</u> explicitly, per se, those skills to their students or to engage in other efforts to enhance students' performance or transference of those skills either across job-related contexts or from job to general education settings. The failure to capitalize on such opportunities represents a major shortcoming that needs to be reversed if secondary vocational programs are to more effectively prepare students to meet the future demands of the workplace.

How Much Emphasis in Vocational Programs Is Placed on Fostering/Improving Students' Employability Skills and Work Habits? (Question 1d)

The issue of employability skills is one of considerable debate. Researchers generally do not agree on the specific traits that make up employability skills (Drier and Ciccone 1987). Also, "research in this area has been hampered by the lack of standardized instruments and a sophisticated data base" (Fitzgerald 1985, p. 25). Additionally, the determination of who --parents, teachers, or employers--should teach specific employability skills (Fitzgerald 1985; Selz 1980) or even how such skills can be taught (Selz 1980) have not been agreed upon, although some work has been done on the former (Selz, Jones, and Ashley 1980).

Goodlad (1984) questions the effect of schools as they currently exist on the preparation of youth for "the real world of work" (p.343). Goodlad is not talking about technical job skills but, rather, about attitudes toward productivity and accountability.

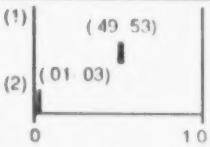
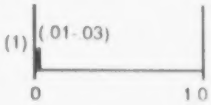
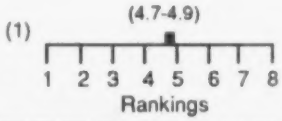
The National Commission on Secondary Vocational Education (1984) shares Goodlad's concerns regarding the acquisition of employability skills. "Vocational education," states the Commission in The Unfinished Agenda, "should be concerned with the development of the individual in five areas" (p. 3), one of which is employability. The report emphasizes the importance of the employability skills when it states that "a decline in the capacity of individual citizens to develop effective work habits, to become effective problem solvers, and to communicate will

condemn us all to a meager existence" (p. 3). It is, therefore, of extreme importance that secondary schools fulfill their role in teaching good work habits because they "are likely to become more, not less, critical in the foreseeable future" (Fitzgerald 1985, p. 26).

Given the importance of employability skills development and absence of a nationwide "picture" of the relative emphasis being placed on such skills, a number of items were included in the project instruments that would yield information that relates directly and/or indirectly to this issue. More specifically, one item completed as part of the classroom observations dealt directly with employability skill development as a focus or explicit goal of instruction, whereas two other observation items dealt with the relative emphasis placed on practicing different job tasks or using different job-related tools/machines, both of which may be viewed as necessary if one is concerned with affecting students' work habits. Three items related to the issue in question were included in the teacher questionnaire and two other items were contained in the counselor questionnaire. The analyses of the data obtained via these different sources are summarized in figure 12.

The results presented in figure 12 suggest the following:

- About 2 percent of the time in vocational classes was focused on employability skills development.
- A substantial portion of the time in vocational classes is spent practicing different job tasks and working with different tools/machines; and the time spent on practicing job tasks in such classes is significantly greater than the comparable time allotted in nonvocational classes.

INDICATORS (Variables)	RESULTS**
• Proportion of episodes in which the teaching activity involved students receiving hands-on practice on job tasks.	(1) Vocational Classrooms $\bar{p}$=.51 s=.31 n=649 (2) Nonvocational Classrooms $\bar{p}$=.02 s=.10 n=244 COMPARISON: t=36.1, which is significant at α=.05 level. 
• Proportion of episodes in which the emphasis was on students' employability skills development.	(1) Vocational Classrooms $\bar{p}$=.02 s=.10 n=649 
• Proportion of episodes in which the students engaged in physical practice with job-related tools/ machines.	(1) Vocational Classrooms $\bar{p}$=.38 s=.32 n=649
• Average priority rating [ranging from 0=not checked (i.e., not a major goal) to 4=high priority] assigned to good work habits and career development skills.	- WORK HABITS (1) Vocational Teachers $\bar{x}$=2.18 s=1.18 n=1120 (2) Nonvocational Teachers $\bar{x}$=2.14 s=1.24 n=860 COMPARISON: t=0.5, which is not significant at α=.05 level. - CAREER DEVELOPMENT (1) Vocational Teachers $\bar{x}$=1.83 s=1.65 n=1120 (2) Nonvocational Teachers $\bar{x}$=1.70 s=1.68 n=860 COMPARISON: t=1.62, which is not significant at α=.05 level.
• Average rankings (1=most important to 8=least important) given by vocational teachers to the goals--	- To provide students with the competencies needed to secure jobs. $\bar{x}$=2.46 s=1.67 n=1089 - To enhance students' awareness of the various jobs for which they could prepare. $\bar{x}$=4.08 s=1.60 n=1082 - To provide opportunities for students to explore various occupational areas. $\bar{x}$=4.82 s=1.87 n=1074 

** The graphs shown depict 95% confidence intervals for each of the designated variables and types of classrooms (i.e., 1=vocational and 2=nonvocational).

Figure 12. Results related to research question 1d–How much emphasis in vocational programs is placed on fostering/improving students' employability skills and work habits?

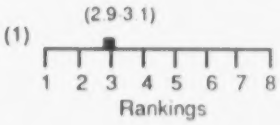
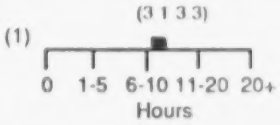
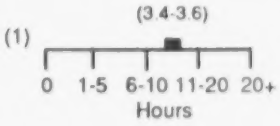
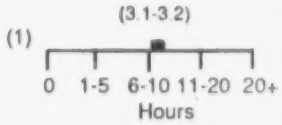
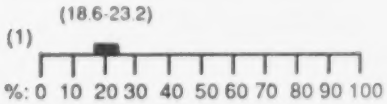
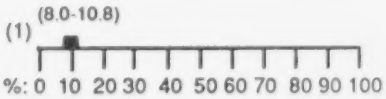
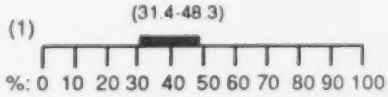
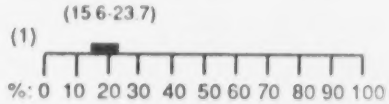
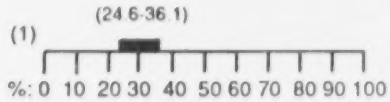
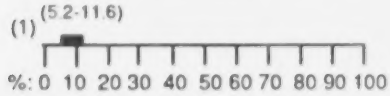
INDICATORS (Variables)	RESULTS	
	- To help students develop a strong work ethic.	$\bar{x}$=3.02 s=1.63 n=1092
		
• Average time (in class hours, where 1=0 hrs, 2=1 to 5 hrs, 3=6 to 10 hrs, 4=11 to 20 hrs) vocational teachers report devoting to helping their students--	- Learn how to find a job (e.g., completing a job application).	$\bar{x}$=3.21 s=1.25 n=1147
		
	- Learn about employer expectations for behavior on the job.	$\bar{x}$=3.49 s=1.21 n=1145
		
	- Engage in career planning and occupational exploration experiences.	$\bar{x}$=3.13 s=1.23 n=1140
		
• Average percentage of schools' guidance staffs' time during a year spent on delivering such services as--	- Occupational choice and career planning.	$\bar{x}$=20.9 s=12.52 n=111
		
	- Employability skill development.	$\bar{x}$=9.4 s=7.64 n=107
		
• Counselors' estimates of percentage of students who participate in the designated guidance-sponsored activities--	- courses in career decision making.	$\bar{x}$=39.9 s=41.33 n=92
		

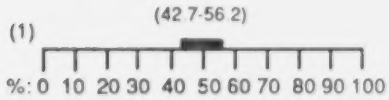
Figure 12--*Continued*

INDICATORS (Variables)	RESULTS
- exploratory work experience programs.	$\bar{x}$=19.6 s=21.34 n=107 (15.6-23.7)
- job site tours or visits.	$\bar{x}$=30.4 s=29.96 n=104 (24.6-36.1)
- job shadowing.	$\bar{x}$=8.4 s=15.74 n=94 (5.2-11.6)
- simulations	$\bar{x}$=6.5 s=17.67 n=85 (2.8-10.3)
- training in job-seeking skills.	$\bar{x}$=49.5 s=35.60 n=107 (42.7-56.2)
- training in resume writing.	$\bar{x}$=50.7 s=36.46 n=108 (43.8-57.6)









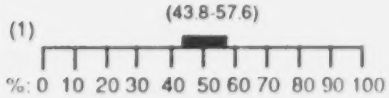


Figure 12--*Continued*

- The relative priority assigned to career development and fostering good work habits is about the same in both vocational and nonvocational classes; in both types of classes such emphases are given moderate priority ratings.

- Vocational teachers ranked different employability skills slightly above the midpoint among the eight sets of skills they considered.

- Vocational teachers reported devoting about 6-7 class hours per year to helping students learn how to find a job, learning about employer expectations for behavior on the job, and engaging in occupational exploration experiences.

- Guidance counselors report spending about 21 percent of their time helping students with their career planning and about 10 percent of their time working on students' employability skills development.

- Guidance counselors report that about 50 percent of their schools' students participate in career decision-making courses, job-seeking skill development programs, and courses in resume writing; between 20 percent and 30 percent participate in career planning programs, exploratory work experience programs, and job-site tours/visits; and about 10 percent participate in employability skill development, job shadowing, and/or job-related simulations.

Although employability skills are a vital component in a well-rounded, productive worker, they are currently receiving little attention from teachers as measured by the amount of instructional time devoted to their development (only 2 percent of the time in vocational classes). Simply touting in the literature the importance of such skills does not translate to implementation in the classroom.

Vocational classrooms appear to a more futile ground for fostering positive student work habits than do academic classrooms. Unfortunately, the success of efforts in this regard could not be determined. Methods by which employability skills

can be interwoven into the daily curriculum need to be delineated and developed.

Although counselors who took part in this study report providing considerable career planning opportunities, observer perceptions indicate that this may be true if it means planning to go to college; however, if it means planning relative to securing a job, the reported emphasis is probably much too great. Career planning must begin prior to grade 10 and the "substance" of that planning for the vast majority of students needs to be shifted away from the current, unidimensional focus on college attendance.

How Dated Are the Skills Being Taught and the Materials/Equipment Being Used in Vocational Classrooms? (Question 1e)

A criticism frequently seen in recent education reform reports is that vocational education's claim to effectiveness is not supported by the antiquated equipment and outdated skills/instruction observed in many high school classes (Goodlad 1984, p. 149; Boyer 1983, p. 123). Although negative reports of the datedness of equipment and skills training have been highly publicized, such reports may be inappropriate and misleading for two reasons: (1) much of the criticism builds upon impressions of a limited array of vocational programs in a limited number of schools; and (2) the criticism is frequently offered and/or interpreted without reference to clear statements of vocational educational program purpose. This study has attempted to address the above concerns by providing current information systematically

gathered from a large and varied sample of schools, and by presenting the findings within a context that provides reference to program purpose and accountability issues. However, before the results and interpretive summaries are presented some discussion of the various purposes of vocational education is in order to provide perspective on the weight that should properly be given to state-of-the-art equipment and skills training in meeting those purposes.

If vocational education is to maintain and enhance its position as a necessary and appropriate component within our public school system, then the evidence must show that the education and training strategies it employs are faithful to their intended purposes. Clearly those purposes can and do vary not only across and within school systems, but also from decade to decade, as changes in educational philosophy tend to force shifts in priorities. For example, vocational education was once viewed as an elective that, along with the arts and physical education, comprised no more than one third of the total curriculum. (Goodlad 1984, p. 139)

Since those early days of public high school education, the shift has been toward three separate tracks (academic, general, vocational), each offering its own version of "core" academic subjects tailored to the supposed needs of the students in each track. Recent reports on the state of the American schools have, however, focused critical attention on the kind and quality of skills demonstrated by high school graduates, thus reopening

discussion concerning the merits of tracking and the purpose(s) of vocational instruction in the high school.

Not only have vocational education purposes changed over time, but opinion is currently divided over what those purposes should be. Critics of vocational education's position in the high school curriculum include those who would tie training even more closely to specific jobs and those who see it as a vehicle not only for real world learning experiences but potentially as an alternative instructional process that should be accessible to all students (National Commission on Secondary Vocational Education 1984; Copa et al. 1985). Confounding efforts to clarify program goals are reports that school level personnel are themselves making claims for outcomes seemingly at odds with their available processes and equipment. Goodlad (1984) recounts the following experience:

> The antiquated equipment in most of (the high schools we studied) would not have bothered me if its apparent function had been to assure all students an alternative mode of learning . . . the fact that the equipment did not parallel that of modern industry would have been of no significance. But it suddenly became of significance when principals, counselors, and vocational education teachers spoke eloquently about the preparation of the students using it for immediate successful entry into the job market. The incongruity was often startling. (p. 149)

The point of view one holds toward vocational education <u>purposes</u> certainly colors one's judgment of the effectiveness of its <u>processes</u>. For example, those advocating that job-specific training be the primary goal of vocational education will expect state-of-the-art or even "cutting edge" equipment, materials, and

skills training, as well as a large percentage of students to be employed in a training-related field.

On the other hand, vocational education is viewed by many as an opportunity to provide career education and exploration, generalizable occupational skills and an alternative learning environment. To fulfill these purposes, skill training and materials should not be outmoded, but need not necessarily be at state-of-the-art levels. It is to be hoped that by including the issue of purpose in discussions of the effectiveness of vocational education processes and outcomes, we can avoid asking the wrong questions and using "results to lead in an inappropriate direction" (Copa et al. 1985). What follows is a summary of the findings of this study with brief implications of those findings for various program purposes.

Three items related to the datedness issue were included in the instruments used by the project's field observers. Those items required that the observers rate their perceptions of the datedness of the printed materials, equipment, concepts, and skills they saw in use in the vocational classes they visited. They were asked to make their ratings of each class on two different occasions/days. Six other items related to the datedness issue were included in the teacher questionnaires. One of those items dealt directly with vocational teachers' perceptions of the currentness of the equipment and materials available in their vocational programs, whereas the other five addressed the issue somewhat less directly--for example, they required the teachers to denote the approximate time they spend

doing background reading in their subject areas or the time they spend working at a nonteaching job in order to update/improve their skills in the area they teach. The results obtained via these different items are summarized in figure 13.

The results found in figure 13 suggest the following:

- The 24 observers generally perceived the printed materials, equipment, concepts and skills being used/considered in the vocational classes they visited to be current, but not representing the "cutting edge" in their respective occupations. (For example, although a machine shop may have had a numerically controlled lathe, typically that lathe was not the latest on the market. Also, in most typing classes electric typewriters [of different vintages] were in common use and limited numbers of word processors/microcomputers were typically available, but used only for "advanced" skills development).

- The vocational teachers also generally viewed the tasks and equipment used in their programs as current but not the latest. Furthermore, during the interviews that were conducted, they expressed a need for new equipment, but typically only equipment for subareas of their programs where they felt recent, rapid advances made the materials/equipment they have obsolete.

- A number of areas of vocational training require that program completers pass state-mandated competency tests, and those independently developed and administered tests should assess knowledge and skills currently required in the associated areas of training.

- Computers, which represent the single greatest technological advance of the century, appear to be some part of the training offered in a substantial number of vocational programs. Although the extent, nature, and adequacy of computer-related training cannot be determined from the available results, they do, nonetheless, suggest that such training is fairly prevalent across the spread of vocational programs.

INDICATORS (Variables)	RESULTS*		
• Perceived datedness of printed materials used in vocational classes.	$\bar{x}$=2.15 s=.96 n=600	- Very current, up-to-date - Current, but not latest - Somewhat dated, not outmoded - Very dated, outmoded - Can't tell	1 2 (2.1-2.3) 3 4 5
• Perceived datedness of tools, machines, and other job-related equipment used in vocational classes.	$\bar{x}$=2.20 s=1.03 n=624	- Very current, up-to-date - Current, but not latest - Somewhat dated, not outmoded - Very dated, outmoded - Can't tell	1 2 (2.1-2.8) 3 4 5
• Perceived datedness of job-related concepts and skills (cognitive and performance) taught in vocational classes.	$\bar{x}$=1.96 s=.89 n=632	- Very current, up-to-date - Current, but not latest - Somewhat dated, not outmoded - Very dated, outmoded - Can't tell	1 2 (1.9-2.0) 3 4 5
• Reported currentness of equipment and materials available in vocational programs.	$\bar{x}$=1.90 s=.83 n=1152	- Very current, up-to-date - Current, but not the latest - Somewhat dated, not outmoded - Very dated, outmoded	1 2 (1.8-1.9) 3 4
• Approximate hours reported by teachers as being spent outside of class doing background reading in their subject area.	(1) Vocational Classrooms $\bar{x}$=2.4 s=.83 n=1285 (2) Nonvocational Classrooms $\bar{x}$=2.4 s=.91 n=935 COMPARISON: t=0.20, which is not significant at α=.05 level.		(1) (2.4-2.5) (2) (2.4-2.5) 1 2 3 4 5 6
• Proportions of vocational graduates who must demonstrate proficiency on state required competency tests in the area of--	- Cosmetology	$\hat{p}$=.81 n=749	(.78-.89) 0 1.0
	- Health Occupations	$\hat{p}$=.66 n=660	(.62-.69) 0 1.0
	- Aviation	$\hat{p}$=.58 n=495	(.53-.62) 0 1.0
	- Plumbing	$\hat{p}$=.57 n=496	(.52-.61) 0 1.0
	- Other Vocational Areas	$\hat{p}$=.28 n=452	(.23-.33) 0 1.0
• Types of computer training reported being taught in vocational programs--	- Microcomputer Operations	$\hat{p}$=.53 n=1068	(.50-.56) 0 1.0
	- Mainframe Computer Operations	$\hat{p}$=.14 n=975	(.12-.16) 0 1.0

* The graphs shown depict 95% confidence intervals for each of the designated variables.

Figure 13. Results related to research question 1e--How dated are the skills being taught and materials/equipment being used in secondary vocational classrooms/programs?

INDICATORS (Variables)	RESULTS		
	- Computer Programming	$\hat{p}$=.33 n=1019	(.30-.36) 0 1.0
	- Computer Assisted Design	$\hat{p}$=.22 n=1004	(.20-.25) 0 1.0
	- Computer Controlled Machines	$\hat{p}$=.19 n=996	(.17-.22) 0 1.0
	- Computer Based Word Processing	$\hat{p}$=.46 n=1062	(.43-.49) 0 1.0
• Frequency during the past three years with which vocational personnel report conducting interviews of employers to assess their satisfaction with former vocational students.	$\bar{x}$=2.47 s=1.22 n=1113	- No - Yes, once - Yes, twice - Yes, three times	1 2 3 4 (2.4-2.5)
• Approximate time reported by vocational teachers as spent during last 2 years working at a nonteaching job that helped update or improve their skills in the areas they teach.	$\bar{x}$=2.38 s=1.48 n=1158	- No - Yes, a work month or less - Yes, one to three work months - Yes, three to six work months - Yes, over six work months	1 2 3 4 5 (2.3-2.5)

Figure 13--*Continued*

- Vocational teachers report that they periodically talk to employers about their former students and their training, which should serve as a "reality check" regarding the currentness and appropriateness of the training they are providing.

- During the past 2 years vocational teachers report averaging about a month working at a nonteaching job with the expressed intent of updating or improving their skills in the area they teach.

In general the results of this study paint a somewhat different picture of the datedness of vocational education resources than has been recently depicted in educational reform reports and other public statements. The materials, equipment, and skills in vocational programs appear to be fairly current, and although they could be updated, they are not outmoded nor completely unrelated to the state of the art in their related occupations.

The information regarding the integration of computers into vocational programs and vocational teachers' efforts to keep current in their respective fields suggests that datedness is a continuing concern in the field. In addition, it appears that vocational teachers spend no less time than do nonvocational teachers in keeping abreast of developments in their subject areas.

Given the results of this study, it does not appear reasonable to claim either that (1) vocational education instructional strategies and resources are outmoded or that (2) they do not contribute to the desired education/training outcomes. A most helpful perspective is provided by the National Commission on Secondary Vocational Education (1984) in their recommendation

for improvement in the area of vocational education standards and accountability (which currently include datedness of skills and equipment):

> Current program standards and accountability are useful but not central to issues of teaching and learning. Therefore, our one recommendation is that the effectiveness of vocational instruction should be judged by before-after changes in student knowledge, skills, and attitudes. (p. 24)

Are Secondary Vocational Curricula Competency Based?
(Question 1f)

For the past 15 years, educators have been working to develop strategies within the classroom setting to better provide for individual needs. Two of the most promising approaches to emerge are the teaching-learning strategy referred to as mastery learning and competency-based curriculum. Mastery learning is a model that assumes that, under appropriate instructional conditions, virtually all students can learn well what they are properly taught (Bloom 1976).

Mastery learning is based upon one aspect of learning style: the rate at which people learn. When combined with competency-based curriculum, mastery learning provides a framework within which what is to be learned is specified. According to Goodlad (1984), "Some advocates of mastery learning believe that differences in individual learning rates can be eliminated. Provocative as this idea obviously is, it has, I believe, less practical significance for the next decade or so than the inherent concept of nearly all students being able to learn . . . if appropriate learning conditions are established" (p. 166).

Competency-based education is an outgrowth of the "systems approach" described by Gagne (1977) that may help to supply the learning conditions called for by Goodlad. Systematic instructional design takes into account the student, the learning environment, the content, the technology, learning theory, and instruction. When applied to vocational education, it makes the following assumptions (Florida Department of Education 1976):

- The skills and knowledge that students learn should be directly related to the duties and responsibilities they will have to perform on the job tasks.
- These skills and areas of knowledge, and how they will be evaluated, should be specified in advance to the students.
- Instructional experiences they need to attain the skills and knowledge required by the jobs they are aiming for should be provided to students.

The systems approach and mastery learning, although not requiring active knowledge of learning styles on the part of teachers, have nevertheless contributed to the individualization of instruction in a growing number of school systems. Because curriculum plays an important role in learning and because vocational education provides a workable environment for the application of competency-based learning, Goodlad (1984) examined curriculum packages prepared by teachers to determine the extent to which competency-based instruction was used. Goodlad found that "the information sought was not uniformly available; there were great variations in the comprehensiveness of what teachers provided; some provided virtually nothing" (p. 204).

In order to develop a more systematic, national view of the extent to which secondary vocational curricula are competency-based, several items were included in the project instruments. One of those items was part of the review instruments completed by the field observers. More specifically, during their site visits the observers were asked to review course syllabi for the classes they observed. As part of that process, they were to judge whether or not the syllabi they reviewed indicated that the related courses were competency-based. A related question was included in the portion of the teacher questionnaire completed only by vocational teachers. That item asked the teachers to indicate whether their program was competency-based and to say which of a set of strategies normally associated with competency-based programs was used in their classes. The results obtained via the data from these two sources are summarized in figure 14.

The results shown in figure 14 suggest the following:

- Somewhere between 60 percent and 80 percent of vocational programs appear to involve some competency-based characteristics and/or strategies.
- The emphasis on the development and use of competency-based curricula is substantially greater in vocational than in nonvocational classes.
- The most prevalent (80 percent or greater) competency-based strategies in use in vocational classes are progress charts, teacher-constructed skills performance tests, and informal teacher judgements; about 50 percent use such strategies as mastery charts, standardized written and skills performance tests, and employer ratings; and about 25 percent use computer recording/feedback.

Generally, these results indicate that at the national level the use of competency-based strategies and procedures is quite

INDICATORS (Variables)		RESULTS*		
• Proportion of vocational teachers who report using the competency-based strategies listed in their vocational programs--	- Program **not** competency-based and don't use such strategies	$\hat{p}$=.21	n=947	(1) (.18-.24) 0 1.0
	- Progress charts	$\hat{p}$=.79	n=1132	(1) (.77-.81) 0 1.0
	- Mastery charts	$\hat{p}$=.47	n=1058	(1) (.44-.50) 0 1.0
	- Computer recording and feedback	$\hat{p}$=.27	n=1049	(1) (.25-.30) 0 1.0
	- Standardized written tests	$\hat{p}$=.62	n=1099	(1) (.59-.65) 0 1.0
	- Standardized skills performance tests	$\hat{p}$=.60	n=1091	(1) (.57-.63) 0 1.0
	- Teacher constructed skills performance tests	$\hat{p}$=.96	n=1162	(1) (.94-.97) 0 1.0
	- Informal teacher judgements	$\hat{p}$=.90	n=1136	(1) (.88-.92) 0 1.0
	- Judgements or ratings by employers	$\hat{p}$=.56	n=1086	(1) (.53-.59) 0 1.0
• Proportion of courses whose course syllabi were reviewed by the field observers and judged to be competency-based.	(1) Vocational Classrooms (2) Nonvocational Classrooms COMPARISON: z=5.58, which is significant at α=.05 level.	$\hat{p}$=.62 $\hat{p}$=.39	n=587 n=1.77	(1) (.58-.66) (2) (.32-.46) 0 1.0

• The graphs shown depict 95% confidence intervals for each of the designated variables and types of classrooms (i.e., 1=vocational and 2=nonvocational).

Figure 14. Results related to research question 1f--Are secondary vocational curricula competency based?

prevalent in vocational programs (i.e., between 60 percent and 80 percent of those programs). At the same time, however, it should be noted that it was difficult to gain, from the curriculum materials provided for examination, any insights into the quality of the competency-based approaches used, or into the extensiveness with which they have been implemented. For example, a number of the syllabi reviewed for different vocational programs included competency listings cast in the form of progress charts, but little more, which generally reflects the finding by Goodlad (1984) noted earlier. In other instances, the correspondences between competency listings and specific program-related materials/activities were not made explicit. Some teachers had to search "long and hard" even to find their course syllabi, which clearly suggested that they were used infrequently during the day-to-day instructional process.

Do Vocational Teachers Use a Larger Variety of Instructional Methods and Materials than Teachers in Other Areas? (Question 1g)

A specific mandate of the Perkins Act is to improve the instructional methods and materials used in the delivery of vocational education. According to Goodlad (1984) and Goodlad, Sirotnik, and Overman (1979), efforts to improve schools and school practices, including instructional methods and materials, require knowing what is happening in and around those institutions, such as having a comprehensive database of contextual information regarding the forces and factors operating in the schools. In keeping with this general perspective, during

the 1976-78 school years, Goodlad and his associates collected a variety of instruction-related data on 525 high school classrooms in 13 schools as part of "A Study of Schooling" (Goodlad, Sirotnik, and Overman 1979). Of that total sample of classrooms, 105 were vocational classrooms, including business education (particularly secretarial skills), career education, home economics, distributive education, industrial arts, and agriculture.

Based upon the observational data they collected, Goodlad and his associates reported finding little variety in the teaching practices used across their sample of 525 classrooms. Furthermore, they contend that the consistency they observed transcends grade levels and subject areas--"We were startled by the paucity of variation in the observational results, both within and across schools" (Sirotnik 1983, p. 19). Generally, they painted a modal classroom picture characterized by "a lot of teacher talk and a lot of student listening, unless students are responding to teachers' questions or working on written assignments; almost invariably closed and factual questions; little corrective feedback and no guidance; and predominantly total class instructional configurations around traditional activities--all in a virtually affectless environment" (Sirotnik 1983, p 29).

Although Goodlad (1984) acknowledges that vocational classrooms vary somewhat from this modal pattern, he generally contends that those variations are relatively minor, compared to the overall "effects" observed. In contrast, the National

Commission on Secondary Vocational Education (1984) contends that the "process" of vocational education provides an alternative to the unidimensional mode of instruction found in most nonvocational classrooms. They argue that process, in contrast to the picture described by Sirotnik, involves--

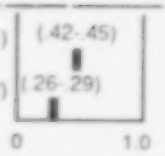
- instruction that is often individualized,
- an emphasis on student mastery of specific skills/ competencies,
- students progressing at their own rates;
- instruction that involves team work and is cooperative,
- greater student motivation due to heightened interest and subject matter relevance,
- concrete opportunities to learn and utilize abstract principles,
- immediate feedback and enhanced self-confidence, and
- opportunities for students to use their tactile kinesthetic senses in learning.

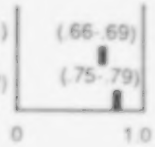
Given the apparent contradiction in the preceding views, a number of items were included in the project's observation instruments that dealt with the kinds of activities and materials that operationally define the instructional methods used in both vocational and nonvocational classrooms. The analyses of the data obtained using those different items are summarized in figure 15.

The results presented in figure 15 suggest the following:

- In vocational classes the number of episodes (WHO is doing WHAT to WHOM, HOW) observed was significantly greater than the number observed in nonvocational classes--that is, a significantly greater number of different instructional configurations were observed in vocational than in nonvocational classes.

INDICATORS (Variables)	RESULTS**
• Proportion of "instruction-related" episodes observed to the number that could potentially be noted during the observations.	(1) Vocational Classes $\bar{p}$=.44 s=.22 n=649 (2) Nonvocational Classes $\bar{p}$=.27 s=.08 n=244 COMPARISON: t=16.8, which is significant at α=.05 level.
• Proportion of discrete "instruction-related" episodes to the total number of "instruction-related" episodes.	(1) Vocational Classes $\bar{p}$=.68 s=.22 n=649 (2) Nonvocational Classes $\bar{p}$=.77 s=.17 n=244 COMPARISON: t=7.1, which is significant at α=.05 level.





• Average proportions of different groupings of students used during "instruction-related" episodes.

GROUPINGS	TYPES OF CLASSES: (1) Vocational Classrooms			(2) Nonvocational Classrooms			COMPARISONS
- Indiv. Students	$\bar{p}$=.41	s=.33	n=649	$\bar{p}$=.19	s=.24	n=244	t=10.9*
- Small Group	$\bar{p}$=.25	s=.26	n=649	$\bar{p}$=.08	s=.17	n=244	t=11.1*
- Large Group	$\bar{p}$=.03	s=.08	n=649	$\bar{p}$=.06	s=.11	n=244	t=-4.2*
- Total Class	$\bar{p}$=.31	s=.34	n=649	$\bar{p}$=.66	s=.32	n=244	t=-14.4*

*Significant at α=.05 level.

• Average proportions of different types of instructional events observed during "instruction-related" episodes.

INSTRUCTIONAL EVENTS	TYPES OF CLASSES: (1) Vocational Classrooms			(2) Nonvocational Classrooms			COMPARISONS
(a) Presentation	$\bar{p}$=.20	s=.25	n=467	$\bar{p}$=.34	s=.30	n=174	t=-5.5*
(b) Practice	$\bar{p}$=.48	s=.32	n=467	$\bar{p}$=.25	s=.27	n=174	t=9.2*
(c) Performance	$\bar{p}$=.14	s=.25	n=467	$\bar{p}$=.17	s=.22	n=174	t=-1.5
(d) Feedback	$\bar{p}$=.04	s=.09	n=467	$\bar{p}$=.06	s=.14	n=174	t=-2.5*
(e) Combination of a, b, c, & d	$\bar{p}$=.14	s=.20	n=467	$\bar{p}$=.18	s=.25	n=174	t=-1.6

*Significant at α=.05 level.

• Numbers of types of teaching activities used during "instruction-related" episodes.

SPECIFIC TYPES OF ACTIVITIES USED	TYPES OF CLASSES: (1) Vocational		(2) Nonvocational		COMPARISONS
- AV Presentation	$\hat{p}$=.04	n=649	$\hat{p}$=.07	n=244	z=-2.99*
- Discussion	$\hat{p}$=.14	n=649	$\hat{p}$=.29	n=244	z=-6.14*
- Lecture	$\hat{p}$=.14	n=649	$\hat{p}$=.24	n=244	z=-8.05*
- Demonstration	$\hat{p}$=.06	n=649	$\hat{p}$=.03	n=244	z=2.63*
- Simulation	$\hat{p}$=.03	n=649	$\hat{p}$=.01	n=244	z=4.25*
- Written Work	$\hat{p}$=.11	n=649	$\hat{p}$=.22	n=244	z=-6.19*
- Reading	$\hat{p}$=.08	n=649	$\hat{p}$=.14	n=244	z=-4.18*
- Practice/Physical	$\hat{p}$=.51	n=649	$\hat{p}$=.04	n=244	z=29.01*
- Practice/Verbal	$\hat{p}$=.04	n=649	$\hat{p}$=.05	n=244	z=-1.68
- Taking Tests	$\hat{p}$=.04	n=649	$\hat{p}$=.12	n=244	z=-5.84*
- Preparation for Assignments	$\hat{p}$=.03	n=649	$\hat{p}$=.02	n=244	z=0.35
- Other Activity	$\hat{p}$=.03	n=649	$\hat{p}$=.04	n=244	z=-1.69

*Significant at α=.05 level.

** The graphics shown depict 95% confidence intervals for each of the designated variables and types of classrooms (i.e., 1=vocational and 2=nonvocational).

Figure 15. Results related to research question 1g--Do vocational teachers use a larger variety of instructional methods and materials than teachers in other areas?

INDICATORS (Variables)	RESULTS

- Numbers of types of instructional materials used during "instruction-related" episodes.

SPECIFIC TYPES OF MATERIALS USED	TYPES OF CLASSES: (1) Vocational		(2) Nonvocational		COMPARISONS
- None	$\hat{p}$=.06	n=649	$\hat{p}$=.09	n=244	z=2.55*
- Textbook	$\hat{p}$=.15	n=649	$\hat{p}$=.32	n=244	z=7.97*
- Worksheets	$\hat{p}$=.25	n=649	$\hat{p}$=.32	n=244	z=-2.93*
- AV Equipment	$\hat{p}$=.06	n=649	$\hat{p}$=.11	n=244	z=-3.35*
- Test	$\hat{p}$=.04	n=649	$\hat{p}$=.12	n=244	z=-6.44*
- Chalkboard	$\hat{p}$=.07	n=649	$\hat{p}$=.17	n=244	z=-6.52*
- Machines/Tools	$\hat{p}$=.50	n=649	$\hat{p}$=.05	n=244	z=25.56*
- Other	$\hat{p}$=.19	n=649	$\hat{p}$=.11	n=244	z=4.65*

*Significant at α=.05 level.

- Average proportions of different types of direct interactions observed during "instruction-related" episodes.

OBSERVED TYPE OF INTERACTION	TYPES OF CLASSES: (1) Vocational Classrooms			(2) Nonvocational Classrooms			COMPARISONS
- None	$\bar{p}$=.23	s=.27	n=648	$\bar{p}$=.19	s=.22	n=244	t=2.17*
- Teacher to Students	$\bar{p}$=.40	s=.30	n=648	$\bar{p}$=.61	s=.28	n=244	t=-9.22*
- Students to Teachers	$\bar{p}$=.03	s=.07	n=648	$\bar{p}$=.04	s=.07	n=244	t=-1.87
- Students to Students	$\bar{p}$=.22	s=.24	n=648	$\bar{p}$=.08	s=.17	n=244	t=9.17*
- Others	$\bar{p}$=.12	s=.25	n=648	$\bar{p}$=.08	s=.17	n=244	t=2.85*

*Significant at α=.05 level.

- Predominant "format" of the class during observations.

TYPES OF FORMATS	TYPES OF CLASSES PER OBSERVATION: OBSERVATION #1 Vocational	OBSERVATION #1 Nonvocational	OBSERVATION #2 Vocational	OBSERVATION #2 Nonvocational
- Whole Class	$\hat{p}$=.28	$\hat{p}$=.63	$\hat{p}$=.26	$\hat{p}$=.49
- Small Groups	$\hat{p}$=.22	$\hat{p}$=.15	$\hat{p}$=.22	$\hat{p}$=.21
- Individual Students	$\hat{p}$=.33	$\hat{p}$=.19	$\hat{p}$=.33	$\hat{p}$=.23
- Other Format	$\hat{p}$=.16	$\hat{p}$=.03	$\hat{p}$=.18	$\hat{p}$=.01
COMPARISONS:	χ^2=100.0*		χ^2=68.8*	

*Significant at α=.05 level.

- Numbers of different instructional tasks/ materials used during observed class periods (i.e., observations #1 and #2).

	Observation #1			Observation #2		
(1) Vocational Class	$\bar{x}$=3.2	s=1.9	n=552	$\bar{x}$=5.0	s=1.8	n=542
(2) Nonvocational Class	$\bar{x}$=2.5	s=1.2	n=208	$\bar{x}$=2.4	s=1.2	n=195
COMPARISONS:	t=5.31*			t=5.46*		

*Significant at α=.05 level.

Figure 15--*Continued*

INDICATORS (Variables)	RESULTS

- Proportions of different types of evaluation approaches observed being used.

TYPES OF EVALUATION APPROACHES	TYPES OF CLASSES: Vocational			Nonvocational			COMPARISONS
	$\bar{p}$		n	$\bar{p}$		n	
- Paper/Pencil tests and quizzes with essay items	$\bar{p}$=.00		n=649	$\bar{p}$=.04		n=244	t=-2.61*
- Paper/Pencil tests and quizzes with fixed response items	$\bar{p}$=.02		n=649	$\bar{p}$=.10		n=244	t=-4.03*
- Performance assessment-process re performing a job task	$\bar{p}$=.22		n=649	$\bar{p}$=.03		n=244	t=9.77*
- Performance assessment-product evaluation	$\bar{p}$=.13		n=649	$\bar{p}$=.03		n=244	t=6.08*

*Significant at α=.05 level

- Average percentages of class time spent developing different types of skills.

TYPES OF SKILLS	(1) Vocational			(2) Nonvocational			COMPARISONS
	$\bar{\%}$	s	n	$\bar{\%}$	s	n	
- Cognitive Skills	47.6	.30	649	84.7	.21	243	t=-20.27*
- Affective Skills	5.8	.12	649	2.8	.08	243	t= 4.49*
- Psychomotor Skills	38.4	.31	649	0.0	.12	243	t=23.89*

*Significant at α=.05 level.

Figure 15--*Continued*

- Over the length of the observations the episodes noted in vocational classes were significantly shorter in duration and more likely to change from one 10-minute "snapshot" to the next than were the episodes observed in nonvocational classes.

- When instruction was occurring in vocational classes the students were significantly more likely to be working either individually or in small groups, whereas in nonvocational classes they were significantly more likely to be observed working in large groups or in a configuration involving the total class.

- During instruction in vocational classes the students are significantly more likely to be observed practicing some skill or task, whereas in nonvocational classes they are significantly more likely to be observed receiving information.

- In vocational classes the students use tools/machines and "other" materials significantly more often than students in nonvocational classes, but the situation is just the opposite when it comes to textbooks, worksheets, tests, chalkboards, and AV equipment.

- In vocational classes students are significantly more likely to be involved in demonstrations, simulations, and practicing physical tasks than students in nonvocational classes, but significantly less likely to be involved in an AV presentation, discussion, lecture, doing written work, reading, or taking tests than the students in nonvocational classes.

- The interactions that occur in vocational classes are significantly more likely to be "none," "other," or from "student to student" than those in non-vocational classes, whereas those in nonvocational classes are significantly more likely to be from "teacher to students."

- The predominant "format" observed in nonvocational classes was the "whole class," whereas in vocational classes the "whole class," "small group," and "individual student" formats were noted about equally often.

- In vocational classes significantly more instruction-related tools/materials are used than in nonvocational classes.

- The predominant evaluation approach used in vocational classes involves performance assessments, whereas the predominant approach used in nonvocational classes involves different paper-and-pencil (written) tests.

- Significantly more class time is spent on students' cognitive skills development in nonvocational classes than in vocational classes, but the situation is reversed with regard to both affective and psychomotor skills development.

In general, these results indicate that the instructional materials and activities being used in vocational classrooms differ in some substantial and significant ways from those used in nonvocational classrooms. Furthermore, those materials and activities differ considerably from the modal pattern observed via "A Study of Schooling" (Goodlad, Sirotnik, and Overman 1979), which was replicated, at least in part, by the nonvocational classes studied in the current survey. The differences between the current results and those found by Goodlad and his associates may potentially be attributed to several factors, either individually or in combination. For example, the instructional approaches employed over the intervening decade may have changed or variations in the two data sets (specific variables as well as intersample variations) may have resulted in the observed differences. Regardless of the "cause", however, it is quite obvious that the materials and activities currently being used in vocational classes differ in major ways from the characterization presented in that earlier research.

It should also be noted that although the current results show that the instructional "processes" used in vocational classrooms differ from those used in nonvocational classrooms,

they do not signal that one approach is necessarily better or worse than the other. They do, however, tend to reinforce somewhat the perspective raised by the National Commission on Secondary Vocational Education---namely, the instructional "process" in vocational classrooms is not as sterile as the modal pattern described by Goodlad and his associates and appears to represent a viable alternative to that pattern, which may benefit some students who have a difficult time succeeding in such a learning environment.

To What Extent Are Positive and Negative Feedback, Reinforcement, Praise Used in Vocational Classrooms? (Question 1h)

Cognitive theories of learning propose both sequences and kinds of mental processing that accompany learning. These processes include the acceptance of stimuli into short-term memory, transformation into long-term memory where information is stored according to meaning, and later retrieval when learner performance is called for (Klatzky 1975). Although these mental activities occur internally, external conditions in the learner's environment help to select and set in motion the cognitive strategies needed to facilitate learning and remembering.

Regardless of the type of learning objective or the size of the class, learning is presumed to be enhanced when it is offered in the context of instructional events that coincide with the steps in mental processing. Gagne and Briggs (1979) propose nine instructional events that should be taken into account by instructional designers and teachers, regardless of the object of

the lesson or the size of the class. Following is a list of the instructional events as they might occur in a learning situation (ibid., p. 157).

- Gaining Attention
- Informing learner of the objective
- Stimulating recall of prerequisite learnings
- Presenting the stimulus material
- Providing learning
- Eliciting the performance
- Providing feedback about performance correctness
- Assessing the performance
- Enhancing retention and transfer

The instructional events need not occur in this order, nor are they necessarily provided in each lesson. Very sophisticated learners may manage the events of instruction almost entirely on their own, whereas lessons involving younger or less motivated learners should make external provision for most if not for all events to occur. One of the instructional events, "providing feedback about performance correctness," has received increasing emphasis in reviews of pedagogical approaches that stress "clarity of instructions and support for and feedback for the learner; expectations are clear; good performance is praised; errors or faulty approaches are pointed out as quickly as possible" (Goodlad 1984, p. 104). Goodlad (ibid., p. 119) observed that feedback does seem to occur more often in vocational education--as well as in the arts, physical education and foreign language--and that may be one reason why students express a preference for those subjects.

Given the contributory role of positive reinforcement and immediate feedback to enhanced performance, several items were

included in the survey instruments that dealt with this issue. Five of the six applicable items were part of the set of instruments completed by the field observers. The sixth item was part of the teacher questionnaire. The analyses of the data secured via those different items are summarized in figure 16.

The results presented in figure 16 suggest the following:

- During the course of instruction, the frequency with which students in both vocational and nonvocational classes received some form of direct feedback regarding their performance from their teachers was about equal (i.e., such feedback occurred in about 1/3 of the episodes observed).

- The relative frequency with which feedback was noted by the observers as the primary "instructional event" in vocational and nonvocational classes was about equal (and noted in about 15 percent of the observed episodes).

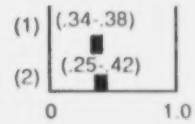
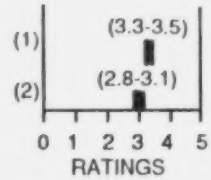
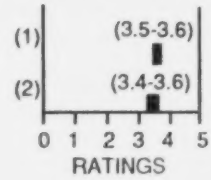
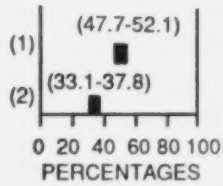
- Individual student progress was checked significantly more often by vocational teachers than by teachers in nonvocational classes.

- The perceived effectiveness with which the observed teachers handled students' questions was about the same in vocational and nonvocational classes.

- The estimated frequency with which teachers in both vocational and nonvocational classes provided evaluative feedback to their students was about the same and in both cases that feedback was generally of a slightly positive nature.

- The percentage of students who vocational teachers reported that they formally recognized for their performance was significantly greater than the percentage reported by nonvocational teachers.

Generally, these results appear to indicate that the relative emphasis placed on reinforcement and feedback is about the same in vocational and nonvocational classrooms--neither group of teachers has a "lock" on this particular aspect of good instructional

INDICATORS (Variables)	RESULTS**	
• Proportion of "instruction-related" episodes in which students received direct feedback regarding their performance.	(1) Vocational Classes $\bar{p}$=.36 s=.25 n=649 (2) Nonvocational Classes $\bar{p}$=.38 s=.27 n=244 COMPARISON: t=-1.35, which is not significant at α=.05 level.	
• Proportions of "instruction-related" episodes in which the type of event observed involved feedback to students.	- Feedback alone. (1) Vocational $\bar{p}$=.03 s=.08 n=467 (2) Nonvocational $\bar{p}$=.05 s=.10 n=174 - Feedback in combination with other type of event. (1) Vocational $\bar{p}$=.09 s=.17 n=467 (2) Nonvocational $\bar{p}$=.08 s=.16 n=174 *Significant at α=.05 level.	COMPARISON t=-2.07* t= 0.62
• Rating of frequency with which teacher checked the progress of the individual students (1=little checking to 5=frequently check).	(1) Vocational Classrooms $\bar{x}$=3.38 s=1.05 n=637 (2) Nonvocational Classrooms $\bar{x}$=2.97 s=1.08 n=234 COMPARISON: t=5.10, which is significant at α=.05 level.	
• Rating of teachers' encouragement and effectiveness in handling student questions (1=little encouragement and poor handling to 5=skillful encouragement and very effective handling).	(1) Vocational Classrooms $\bar{x}$=3.57 s=0.93 n=639 (2) Nonvocational Classrooms $\bar{x}$=3.49 s=0.94 n=237 COMPARISON: t=1.18, which is not significent at α=.05 level.	
• Ratings of the evaluative feedback provided by teachers during the course of the observations.	RATING CRITERIA - Frequency (1=very low to 5=very high) (1) Vocational $\bar{x}$=3.13 s=1.13 n=644 (2) Nonvocational $\bar{x}$=3.02 s=1.08 n=240 - Nature (1=very + to 5=very -) (1) Vocational $\bar{x}$=1.99 s=.81 n=633 (2) Nonvocational $\bar{x}$=2.11 s=.79 n=235 *Significant at α=.05 level.	COMPARISON t= 1.38 t=-1.96
• Percentage of students recognized for their performance.	(1) Vocational $\bar{x}$=49.9 s=38.0 n=1165 (2) Nonvocational $\bar{x}$=35.4 s=33.5 n=766 COMPARISON: t=8.78, which is significant at α=.05 level.	

** The graphs shown depict 95% confidence intervals for each of the designated variables and types of classrooms (i.e., 1=Vocational and 2=nonvocational).

Figure 16. Results related to research question 1h--To what extent are positive and negative feedback, reinforcement, praise, and so forth used in vocational classrooms?

practice. The relative frequency with which feedback occurred was somewhat greater than that noted by Goodlad and his associates during "The Study of Schooling."

The results on the two items on which the vocational teachers differed from the nonvocational teachers could have been due in part to the fact that in vocational classes significantly more students are working either in small groups or individually, which means that when teachers are interacting with students (e.g., providing feedback) they are more likely to be doing so on an individual-by-individual basis.

Is the Relative Emphasis Placed on Basic Skills Reinforcement/Enhancement Different in Area versus Vocational Specialty versus Comprehensive High Schools? (Question 2a)

The second of the three project objectives deals with identifying different factors that influence vocational classrooms/programs and describing how those influences are reflected in what goes on in such classrooms/programs. One of those factors, which is identified in the current Federal vocational legislation, is "institutional characteristics." More specifically, the Perkins Act mandates that applied research and development be conducted that focuses on "the identification of institutional characteristics which improve the preparation of youth and adults for employment" (U.S. Congress 1984, p. 37). In addition, as part of the program improvement initiatives to be undertaken by the states the Act states that appropriate funds may be used for "the expansion and improvement of programs at area vocational education schools"; "the acquisition of equipment and

renovation of facilities necessary to improve or expand vocational programs"; and "the construction of area vocational education school facilities in areas having demonstrated need for such facilities" (ibid., pp. 23-24).

For the purposes of the current survey, "instructional characteristics" were defined in terms of alternative vocational education delivery systems. At present, the United States has three generic types of delivery systems in place that offer secondary vocational education programs. Those delivery systems are comprehensive high schools, area vocational schools (or centers), and vocational (specialty) high schools. In practice, that is, when attempting to place specific schools into one of these three categories, problems can arise due to inherent ambiguities in the definitions used (e.g., see Gilli [1976, pp. 65, 74]) and to the diversity of definitions used across states and school districts within states.

Generally, under most definitions comprehensive high schools offer predominantly academic and general courses and some vocational courses, according to a 1985 report of the National Center for Educational Statistics. The majority of students in comprehensive high schools are not enrolled in vocational education programs. However, a substantial number of students (i.e., approximately 78 percent) take at least one vocational course (Campbell, Orth, and Seitz 1981). Comprehensive schools are structured to meet the diverse needs of students with many educational interests. Conant (1967) explains that the system is labeled comprehensive because--

> it provides under one roof (or series of roofs) secondary education for . . . students with different vocational and professional ambitions and with various motivations. It is responsible for providing good and appropriate education, both academic and vocational. (p. 3)

Overall, it is estimated that there are approximately 24,000 such high schools in the United States (which offer at least 1 vocational course), but only 6,000 of them offer 5 or more vocational courses (Swanson 1982).

In the current study a comprehensive school was operationally defined as shown at the bottom of figure 5. In addition to having the characteristics noted in that definition, each school selected in the sample of comprehensive schools had to offer at least two federally-funded vocational programs.

The second generic type of delivery system is the area vocational school or center. Some comprehensive high schools have joined other schools or districts to form area vocational centers (ibid., p. 31). Students in area vocational centers may attend vocational courses on a part- or shared-time basis but return to the adjoining comprehensive high school for their general and academic courses. There are about 1,250 area vocational schools in the United States.

Separate vocational schools, which represent the third type of delivery system, began to emerge in a number of large city districts in some States during the 1960s (Conant 1967, p. 58). As is the case with comprehensive schools, there is a great deal of variation among these vocational specialty schools. Vocational high schools specialize in vocational education programs, with

general and academic courses offered as a supplement. A majority of students who attend vocational high schools are enrolled in vocational education programs. It is estimated that there are over 200 specialized vocational or technical high schools in the nation, with most of them being administered locally in urban centers.

In the current survey the definitions for these three types of delivery systems that were developed as part of a nationwide study on systems and facilities conducted for the U.S. Office of Education (Westat, Inc. 1978) were used. Those definitions were as follows:

- Comprehensive.* A general high school offering both vocational and general academic subjects, but in which the majority of students are not enrolled in vocational programs.

- Vocational. A specialized school offering full-time programs of vocational and academic subjects and in which the majority of the students are enrolled in vocational programs.

- Area Vocational. A shared-time facility that offers vocational instruction to students from throughout a district/region; students receive their required academic instruction in regular (e.g., comprehensive) high schools.

The aforementioned study investigated the quality of facilities for the three types of delivery systems described. That study (which included only schools offering five or more vocational programs) generally showed the following:

- Vocational high schools were usually located in urban areas, whereas comprehensive high schools and area vocational schools were usually located in suburban and rural areas.

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*As indicated on the previous page, comprehensive schools had to offer at least two federally-funded vocational programs.

- The physical condition of institutions located in urban, as opposed to suburban or rural areas tended to vary. Generally, vocational high schools located in central cities needed a great deal of maintenance. Over 60 percent of vocational institutions in large cities were described as in need of maintenance or replacement, whereas less than 40 percent of those in suburban areas, smaller cities, and rural areas were described similarly. About 10 percent of vocational institutions in suburban and rural areas were described as in need of replacement.

- Over 20 percent of all urban high schools conceded that their vocational facilities and equipment are in need of major repair or replacement.

According to David (1983) the influence of the attributes of different types of delivery systems upon the quality of vocational education is largely an unexamined question. Furthermore, Bragg, Parks, Dauner and Campbell (1986) and Campbell, Elliot, Hotchkiss, and Laughlin (1987) contend that most of the evidence that is available regarding the quality of vocational programs offered through various delivery systems is anecdotal in nature. One such anecdotal study was conducted by Benson and Hoachlander (1981). These researchers reported that specialized schools such as vocational high schools and area vocational centers offered vocational education programs of generally higher quality than those of comprehensive high schools. These conclusions were based on site visits to seven large cities. The differences in quality were determined on the basis of variations in the following program attributes, which they derived from the Project on National Vocational Education Resources conducted for the National Institute of Education (1981):

- Comprehensiveness and depth of instruction
- Experience of instructional staff
- Closeness to industry
- Availability of up-to-date equipment
- Flexibility in responding to local labor market demands

The effectiveness of vocational education, when delivered in comprehensive schools, has also been questioned by several others. For example, Benson (1982) argues that at best comprehensive schools can offer only a handful of vocational courses to match even a fraction of the jobs available. Likewise, Peterson and Rabe (1981) in a study of four large comprehensive, urban high schools noted:

> The problems faced by the comprehensive high schools were noticed with such regularity . . . that one cannot begin but wonder whether this institution has begun to outlive its original purpose. Especially with regard to vocational education, instruction must now be so specialized and the necessary equipment must be so sophisticated that it is difficult to create vocational programs in all of the high schools of the city. (p. 25)

Boyer (1983) in his study of American high schools concluded, "The most successful programs we visited were not at comprehensive high schools but at specialized vocational schools" (p. 123). The Committee for Economic Development (1985) has even recommended that area vocational schools are the most appropriate institutions for delivering vocational education given the absence of empirical, national evidence to the contrary regarding their effectiveness.

In addition to these general concerns with the quality of vocational offerings provided in comprehensive schools, the following arguments have surfaced:

- Comprehensive schools are less apt to establish close contracts with industry and it is, therefore, difficult for students in such schools to develop necessary contacts in the job market, which it has been suggested may be more important in achieving positive labor market outcomes than training in specific skill areas (Peterson and Rabe 1981).

- Guidance counselors in comprehensive schools, who are often preoccupied with assisting academic students to get accepted into college, are generally unfamiliar with the world of work because of their own academic backgrounds, have fewer contacts with employers of vocational students, and tend to have adverse, if any, effect upon the contacts between vocational students and potential employers (Benson 1982).

- Comprehensive schools have only about half the lab space as vocational schools (Benson 1982).

- The problems associated with equipment and technological change are difficult in all types of schools, but particularly in the comprehensive schools (Weisberg 1983).

In contrast to the preceding positions, Evans (1982) argues for keeping vocational programs in the comprehensive school. He does not argue that comprehensive schools are better than the other two types of delivery systems. Rather, he feels that in order to provide adequate career opportunities to <u>all</u> secondary students (much as recommended by Goodlad [1984]), vocational education must be offered in comprehensive high schools, the only type of secondary school universally available.

As noted earlier, the preceding results and conclusions are based largely upon anecdotal evidence and are limited by relatively little empirical research having been conducted that

addresses the effectiveness of the different types of delivery systems on student outcomes. Several notable exceptions to this general limitation are as follows:

- A study by Bragg, Parks, Dauner, and Campbell (1986) examined the effect of delivery system type on students' hourly wages and monthly earnings. Despite weaknesses in the data, which led to some ambiguities in defining delivery type, the results of this exploratory study do not support the notion of the superiority of area and vocational schools over comprehensive schools. The only significant findings of a delivery system effect on earnings was a negative coefficient found for area vocational schools when compared to comprehensive high schools.

- Weberg (1984) found little difference between area vocational and comprehensive high school students except for a somewhat higher continuing education rate for comprehensive school students.

- Martini (1984) completed a study in which the attitudes of students from different delivery systems were compared. The results indicated that vocational students in comprehensive schools were more confident about their social skills and more positive regarding their social autonomy, whereas students from area vocational schools expressed more positive attitudes toward their schools and peers and were more positive about their job finding skills and career goals.

Given the relatively small amount of attention paid to the area of "institutional characteristics" in the research literature as well as the discrepancies found among the results of the studies that have been conducted, it is unlikely that unequivocal conclusions can be drawn regarding the superiority of one type of delivery system over another. The current study, however, attempts to determine if those various delivery systems are systematically related to differences in the methods of instruction and related activities observed in use within each

such system or institution. In all, eight questions related to this issue are addressed via the project analyses. Although the available data seriously limit the questions considered (i.e., since those data contain only relatively poor outcome information, it is not possible to study the relationships between institutional types and student outcomes [e.g., earnings, employment patterns]), it is assumed the findings that are obtained will help shed additional light on the issue in question and provide a backdrop that will facilitate development of more directed/fruitful outcome-related questions in the future. In addition, those findings should relate, in their own right, to important concerns that have direct policy implications regarding the instructional processes in use in the three major types of institutions that provide vocational training for our secondary school population.

The initial question among the eight considered regarding institutional characteristics focuses upon one of the most critical issues facing vocational education today--students' basic skills. The different items (and related variables) from the survey instruments that were considered during the current set of analyses were the same as those employed in relation to question 1a--To what extent are basic skills enhanced and reinforced in vocational classrooms/programs? (See figure 9.) The results obtained via the current analyses are summarized in figure 17.

The results shown in figure 17 suggest the following:

- The relative frequency with which basic skills were noted as part of the ongoing instruction in the observed classes in the three designated types of schools were much the same, that is, they did not

INDICATORS (Variables)	RESULTS

- Proportion of episodes in which one or more basic skills were addressed.

TYPES OF CLASSES

TYPES OF SCHOOLS	(1) Vocational $\bar{p}$	n	(2) Nonvocational $\bar{p}$	n	Both Types Combined $\bar{p}$	n
- Comprehensive	.63	338	.71	133	.65	471
- Area Vocational	.61	210	.73	71	.64	281
- Vocational Specialty	.63	101	.67	40	.64	141

COMPARISONS: F-Interaction=0.81 and F-Schools=0.36, where MS Error =.07.

- Proportion of episodes in which reading was involved.

TYPES OF CLASSES

TYPES OF SCHOOLS	(1) Vocational $\bar{p}$	n	(2) Nonvocational $\bar{p}$	n	Both Types Combined $\bar{p}$	n
- Comprehensive	.40	338	.52	133	.43	471
- Area Vocational	.34	210	.48	71	.38	281
- Vocational Specialty	.37	101	.54	40	.42	141

COMPARISONS: F-Interaction=0.26 and F-Schools=2.86, where MS Error=.10

- Proportion of episodes in which mathematics was involved.

TYPES OF CLASSES

TYPES OF SCHOOLS	(1) Vocational $\bar{p}$	n	(2) Nonvocational $\bar{p}$	n	Both Types Combined $\bar{p}$	n
- Comprehensive	.19	338	.14	133	.17	471
- Area Vocational	.15	210	.15	71	.15	281
- Vocational Specialty	.23	101	.16	40	.21	141

COMPARISONS: F=Interaction=0.10and F-Schools=0.34, where MS Error=.07

- Proportion of episodes in which writing was involved.

TYPES OF CLASSES

TYPES OF SCHOOLS	(1) Vocational $\bar{p}$	n	(2) Nonvocational $\bar{p}$	n	Both Types Combined $\bar{p}$	n
- Comprehensive	.23	338	.39	133	.28	471
- Area Vocational	.22	210	.43	71	.27	281
- Vocational Specialty	.23	101	.42	40	.28	141

COMPARISONS: F-Interaction=0.09 and F-Schools=0.01, where MS Error=.07

- Proportion of episodes in which speaking was involved.

TYPES OF CLASSES

TYPES OF SCHOOLS	(1) Vocational $\bar{p}$	n	(2) Nonvocational $\bar{p}$	n	Both Types Combined $\bar{p}$	n
- Comprehensive	.35	338	.34	133	.35	471
- Area Vocational	.39	210	.44	71	.40	281
- Vocational Specialty	.38	101	.39	40	.38	141

COMPARISONS: F-Interaction=0.95 and F-Schools=2.65, where MS Error=.08

Figure 17. Results related to research question 2a–Is the relative emphasis placed on basic skills reinforcement/enhancement different in area versus vocational specialty versus comprehensive high schools?

INDICATORS (Variables)	RESULTS

- Proportion of episodes observed in vocational classes in which the content area or focal topic is basic skills.

TYPES OF SCHOOLS	$\bar{p}$	n
- Comprehensive	.03	338
- Area Vocational	.02	210
- Vocational Specialty	.02	101

COMPARISON: F-Schools=1.49, where MS Error=.01

- Priority rating assigned to basic skills development as a teaching goal (ranging from 0=not checked [i.e., not a major goal] to 4=highest priority).

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{r}$	n	$\bar{r}$	n	$\bar{r}$	n
- Comprehensive	.93	407	1.33	680	1.18	1087
- Area Vocational	.91	498	1.39	77	.97	575
- Vocational Specialty	.85	215	1.15	103	.94	318

COMPARISONS: F-Interaction=0.37 and F-Schools=7.60* where MS Error=1.56

- Number of writing assignments of at least one page each assigned during a typical month.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	2.34	461	2.55	733	2.47	1194
- Area Vocational	2.35	575	2.69	81	2.39	656
- Vocational Specialty	2.23	251	2.83	116	2.42	367

COMPARISONS: F-Interaction=2.09 and F-Schools=0.79, where MS Error=1.89

- Amount of class time spent during a typical week on the reinforcement/enhancement of students'--

		TYPES OF CLASSES					
		(1) Vocational		(2) Nonvocational		Both Types Combined	
	TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
-- Reading Skills	- Comprehensive	2.3	455	2.5	730	2.5	1185
	- Area Vocational	2.3	570	2.8	82	2.5	652
	- Vocational Specialty	2.4	255	2.9	111	2.5	366
-- Mathematic Skills	- Comprehensive	2.4	453	2.0	699	2.2	1152
	- Area Vocational	2.4	568	2.5	76	2.4	644
	- Vocational Specialty	2.6	252	2.1	107	2.4	359
-- Writing Skills	- Comprehensive	2.1	453	2.5	725	2.4	1176
	- Area Vocational	2.1	569	2.5	82	2.1	651
	- Vocational Specialty	2.0	253	2.8	111	2.3	364
-- Language Skills	- Comprehensive	2.3	453	2.6	714	2.5	1167
	- Area Vocational	2.1	565	2.9	78	2.2	643
	- Vocational Specialty	2.2	251	2.9	108	2.4	359

COMPARISONS:

-- Reading Skills	- F-Interaction=4.9*, F-Schools=2.6, MS Error=1.27,
-- Math Skills	- F-Interaction=5.28*, F-Schools=16.0*, MS Error=1.44,
-- Writing Skills	- F-Interaction=3.45*, F-Schools= 13.3*, MS Error =1.12,
-- Language Skills	- F-Interaction=4.65*, F-Schools=12.6*, MS Error=1.37

* Significant at α=.05 level.

Figure 17--*Continued*

INDICATORS (Variables)	RESULTS

• Proportion of class time during a routine week spent on. . .

	TYPES OF SCHOOLS	TYPES OF CLASSES (1) Vocational $\bar{x}$	n	(2) Nonvocational $\bar{x}$	n	Both Types Combined $\bar{x}$	n
-- Listening to lectures or other class presentations and class discussions.	- Comprehensive	.15	418	.28	670	.23	1088
	- Area Vocational	.14	516	.30	74	.16	590
	- Vocational Specialty	.14	228	.23	101	.17	329
-- Applying math skills to practical problems.	- Comprehensive	.03	418	.07	670	.06	1088
	- Area Vocational	.05	516	.08	74	.05	590
	- Vocational Specialty	.06	228	.08	101	.07	329
-- Reading course-related materials in books, manuals, or workbooks, worksheets, etc.	- Comprehensive	.08	418	.15	670	.12	1088
	- Area Vocational	.08	516	.15	74	.09	590
	- Vocational Specialty	.09	228	.16	101	.11	329
-- Writing essays, themes, business letters, etc.	- Comprehensive	.03	418	.06	670	.05	1088
	- Area Vocational	.02	516	.04	74	.02	590
	- Vocational Specialty	.02	228	.08	101	.04	329
-- Speaking, making presentations, etc.	- Comprehensive	.02	418	.05	670	.04	1088
	- Area Vocational	.02	516	.03	74	.02	590
	- Vocational Specialty	.02	228	.04	101	.03	329

COMPARISONS:
-- Listening - F-Interaction=2.6, F-Schools=44.8*, MS Error=.02,
-- Applying Math - F-Interaction=0.6, F-Schools= 2.7*, MS Error=.01,
-- Reading - F-Interaction=0.1, F-Schools=17.8*, MS Error=.01,
-- Writing - F-Interaction=1.6, F-Schools=21.8*, MS Error=.01,
-- Speaking - F-Interaction=0.7, F-Schools=16.2*, MS Error=.01

• Percentage of vocational teachers reporting that remedial instruction is available to their students in basic reading and basic math.

TYPES OF SCHOOLS	Basic Reading %	n	Basic Math %	n
- Comprehensive	16.8	382	17.8	381
- Area Vocational	20.4	560	19.1	559
- Vocational Specialty	13.5	249	8.1	247

COMPARISONS:
-- Basic Reading - F-Schools=2.86, MS Error=0.15,
-- Basic Math - F-Schools=8.10*, MS Error=0.14

• Average ranking (ranging from 1=most important to 8=least important) given by vocational teachers to the goal, "To enhance and reinforce students'basic skills (e.g., basic math, reading)."

TYPES OF SCHOOLS	$\bar{r}$	n
- Comprehensive	4.5	360
- Area Vocational	5.1	528
- Vocational Specialty	4.8	227

COMPARISON: F-Schools=12.8*, where MS Error=3.35

•Significant at α =.05 level.

Figure 17--Continued

differ. (Note: The significant differences in the observation results were primarily between vocational and nonvocational classes. Those differences were described earlier in relation to question 1a.)

- The proportions of episodes observed across the three designated types of schools in which the focal topic was basic skills did not differ. (Note: These proportions are all significantly less than the corresponding proportion of episodes in which the use of one or more basic skill was observed--a result similar to that noted in relation to figure 9.

- The priority rating assigned to basic skills as a teaching goal was significantly higher for the teachers in comprehensive schools than for the teachers in area vocational and vocational specialty schools.

- The numbers of writing assignments made per month did not differ across the three types of schools.

- Generally, the amounts of time reported by teachers in comprehensive schools as being spent on basic skills activities was greater than the amounts reported by teachers in vocational specialty schools, which in turn was greater than the amounts spent on such activities reported by teachers in area vocational schools. One exception to this general trend was in the area of mathematics, where the teachers in the two types of vocational schools reported spending significantly more time reinforcing/enhancing such skills than did the teachers in comprehensive schools. However, this same result was not obtained when time spent on applying math skills to practical problems was the criterion. The other exception occurred in the case of the reinforcement/enhancement of reading skills in which no differences were observed across types of schools.

- The percentages of vocational teachers in all three types of schools who reported that remedial reading was available to their students did not differ; however, significantly fewer teachers in vocational specialty schools reported that remedial math was not available for their students.

- The vocational teachers in comprehensive schools gave the goal of basic skills reinforcement and enhancement a significantly lower ranking than did the vocational teachers in area vocational schools,

whereas the vocational teachers in the vocational specialty schools fell about midway between these two extremes.

Overall, these results would seem to indicate that there are no major differences among the three types of delivery systems in terms of the relative emphasis placed on students' basic skills reinforcement and enhancement. Although the teachers in comprehensive schools report spending somewhat more time on basic skills-related activities than the teachers in area vocational and vocational specialty schools (particularly area vocational schools), these self-reported difference were not borne out by the observational data or the data describing actual practices (e.g., numbers of writing assignments made per month).

These results also serve to reinforce the general conclusion reached earlier in relation to question 1a--that although many opportunities exist in vocational classrooms to enhance/reinforce students' basic skills, the vast majority of those opportunities are lost. Furthermore, it would appear those opportunities are lost in all vocational classes, regardless of the type of school in which the classes are offered.

Does the Currentness of the Job Skills, Materials, and Equipment Observed in Vocational Classrooms Differ across Different Types of Schools? (Question 2b)

As noted in relation to the preceding question, available anecdotal data suggest that the skills, materials, and equipment in comprehensive schools are generally quite dated. For example, Boyer (1983) noted, "In an auto-mechanics class we visited, students were tuning decade-old engines. A print shop looked as

if nothing had changed in print technology since 1950. One 'commercial' teacher at a suburban high school told us: 'Our school doesn't even have electric typewriters although most employers expect our graduates to use word processors'" (p. 122). Likewise, Goodlad (1984) concluded from his visits to 13 comprehensive high schools that the equipment used in vocational classes was antiquated and did not parallel that used in modern industry.

Although all schools have difficulty keeping pace with equipment and technological changes, Weisberg (1983) contends that the problem is particularly severe for the comprehensive high school. This position is generally supported by Evans (1982) and Benson and Hoachlander (1982). Campbell, Elliot, Hotchkiss, and Laughlin (1987) also note that specialized vocational schools tend to respond quicker and more appropriately to labor market demands and tend to establish closer contacts with industry than do comprehensive high schools.

Generally, these research results, which suggest that the skills and equipment available in vocational specialty schools and area vocational schools are more current than those in comprehensive schools, may be traced to several factors. For example, the facilities and equipment in vocational schools are generally newer--they were built or secured between the early 60s and the present--whereas many comprehensive schools date back to the 50s or earlier. Also, the samples of different types of schools upon which those results are based are generally quite limited (e.g., Goodlad looked at 13 comprehensive high schools;

Boyer visited 15 high schools--3 of which were vocationally oriented and 12 of which were comprehensive; and Benson and Hoachlander visited schools in 7 large cities). With the second of these factors in mind, it was assumed that the current project sample of 120 schools would provide a firmer, more current basis for looking at the datedness issue across different types of institutions than the restricted, decade old samples employed in those previous studies.

The specific items used to define the dependent variables in the analyses that were undertaken are the same as those used to address question 1e--How dated are the skills being taught and the materials/equipment being used in vocational classrooms/programs? (See figure 13.) The results obtained via those analyses are summarized in figure 18.

The results found in figure 18 suggest the following:

- The perceived datedness of the printed materials observed in use during the field observations did not vary appreciably across the three designated types of schools.

- The tools, machines, and other equipment observed in use in comprehensive high schools were viewed as being significantly more dated than the tools, machines, and equipment observed in use in vocational specialty schools, with those noted in area vocational schools falling between these two extremes.

- The skills and concepts being taught in comprehensive schools were viewed as being significantly more dated than those being taught either in area vocational schools or vocational specialty schools.

- Generally, the frequency with which students in comprehensive schools must demonstrate their proficiency on state-mandated competency tests is less (though not necessarily significantly less)

INDICATORS (Variables)	RESULTS

- Perceived datedness of printed materials used in vocational classes.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	2.22	309	MS Error=0.93 and F=1.83, which is not significant at α=.05 level.
- Area Vocational	2.06	194	
- Vocational Specialty	2.09	97	

- Perceived datedness of tools, machines, and other job-related equipment used in vocational classes.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	2.33	317	MS Error=1.05 and F=6.99, which is significant at α=.05 level.
- Area Vocational	2.14	207	
- Vocational Specialty	1.91	100	

- Perceived datedness of skills and concepts taught in observed vocational classes.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	2.06	325	MS Error=0.77 and F=7.12, which is significant at α=.05 level.
- Area Vocational	1.85	207	
- Vocational Specialty	1.73	100	

- Proportions of vocational graduates who must demonstrate proficiency on state required competency tests in the area of--

AREA	PROPORTIONS BY TYPES OF SCHOOLS (1) Comprehensive	(2) Area Vocational	(3) Voc. Specialty	COMPARISON
- Cosmetology	.77	.81	.85	χ^2=3.90
- Health Occupation	.58	.69	.69	χ^2=7.30*
- Aviation	.56	.56	.64	χ^2=2.03
- Plumbing	.59	.53	.62	χ^2=2.86
- Other Vocational	.26	.26	.38	χ^2=3.46

- Types of computer training reported being taught in vocational programs.

TYPES OF TRAINING	PROPORTIONS BY TYPES OF SCHOOLS (1) Comprehensive	(2) Area Vocational	(3) Voc. Specialty	COMPARISON
- Microcomputer Operations	.56	.52	.52	F=0.62
- Mainframe Computer Operations	.08	.18	.13	F=6.97*
- Computer Programming	.33	.32	.35	F=0.17
- Computer Assisted Design	.22	.23	.21	F=0.23
- Computer Controlled Machines	.13	.22	.22	F=6.63*
- Computer Based Wordprocessing	.52	.42	.45	F=4.73*

* Significant at α=.05 level.

Figure 18. Results related to research question 2b--Does the currentness of the job skills, materials, and equipment observed in vocational classrooms differ across different types of schools?

INDICATORS (Variables)	RESULTS			
• Reported currentness of equipment and materials available in vocational programs (1=very current to 4=very dated/outmoded).	TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
	- Comprehensive	2.01	357	MS Error-0.68 and F=5.28, which is significant at α=.05 level.
	- Area Vocational	1.83	556	
	- Vocational Specialty	1.87	239	
• Approximate time reported by vocational teachers as spent during the last 2 years working at a nonteaching job that helped update or improve their skills in the area they teach (2=1 work month or less and 3=1 to 3 work months).	TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
	- Comprehensive	2.11	363	MS Error=2.15 and F=8.95, which is significant at α=.05 level.
	- Area Vocational	2.50	555	
	- Vocational Specialty	2.50	240	

Figure 18--*Continued*

than the frequency with which students in area vocational and vocational specialty schools must demonstrate their proficiency on such tests.

- Training in mainframe computer operations and computer controlled machines was offered more often in area vocational and vocational specialty schools than in comprehensive high schools, but when it comes to computer-based word processing the situation is reversed.

- The vocational teachers in comprehensive high schools report that the equipment/materials available in their programs are significantly more dated than do the teachers in area vocational schools, while the estimates of the teachers in vocational specialty schools fall between these two extremes.

- The approximate time vocational teachers in comprehensive schools report spending on updating/improving their technical (job-related) skills is significantly less than the comparable time reported by the vocational teachers in area vocational and vocational specialty schools.

In general, the preceding results tend to support the conclusion reached in previous research--that the skills being taught and equipment/tools available in vocational specialty and area vocational schools are more current than those available in comprehensive schools. The only exception to this general trend was the finding that computer-based word processing tended to be more prevalent in comprehensive schools. This finding may have been due, at least in part, to the fact that a very substantial proportion of the relatively limited number of vocational offerings in comprehensive schools are business and office classes in which such skills are frequently taught not only to vocational but to general and academic students as well. Typically this proportion will be sizably greater than the proportion of business

and office classes found in either area vocational or vocational specialty schools.

The finding that the skills taught and equipment available in comprehensive schools are more dated than those found in area vocational and vocational specialty schools could be related to the kinds of vocational offerings typically found in these different types of schools. More specifically, the vocational programs often found in comprehensive high schools are industrial arts, consumer and homemaker education, marketing and distributive education, business and office education (particularly introductory typing and bookkeeping for "college-bound" students), and agriculture. Most of these programs are what Hoachlander (1986) describes as "not occupationally specific", which means they are not oriented toward preparing students for a specific occupation or occupational area, nor do they include training for jobs that are at the "cutting edge" of technology in their respective fields. Some of the courses within these programs have as their primary objectives the fostering of basic skills (e.g., business math) while others are intended to foster students' career exploration (e.g., familiarizing students with the variety of career options available, familiarizing them with the "culture" of the world of work, and exposing them to the "manual arts"). Typically, such objectives do not require "cutting edge" equipment and skills and the related instructional staff should probably be more concerned with teaching students the "basics", key principles, and how to transfer what is learned in one setting (e.g., academic classes) to another (e.g., performance on job

tasks). If these types of outcomes reflect the primary objectives of most of the vocational training provided in comprehensive high schools, while job specific skill training represents the major goal of the training offered in area vocational and vocational specialty schools, then it does not necessarily follow that the tools and equipment found in comprehensive school vocational classes need to be the latest available. For that matter, some more dated equipment/tools may even be more applicable and appropriate in teaching toward such non-occupation specific objectives.

Do Degreed Vocational Teachers Use More of a Variety of Instructional Activities and Materials Than Do Nondegreed Teachers? (Question 2c)

The emphasis in the Perkins Act on the need to improve the instructional methods and materials used in vocational education prompted the current study's examination of this issue. Remarkably little national data exist that describe characteristics of vocational teachers--in particular, information that might suggest effects of educational level attained on the variety of instructional methods used. One source which does provide some reference for the results of this study is Pratzner's recent survey: Vocational Teacher Education: A Survey of Preservice and Inservice Preparation (forthcoming). Pratzner's sample consists of 740 beginning vocational teachers drawn from 24 states in 8 regions of the country. Survey results revealed that 75 percent of the beginning teachers achieved college degrees or higher. Twenty-six percent did not have bachelors degrees,

although they may have completed some college or received a 2-year associate degree. The majority of nondegreed teachers were in the areas of trade and industry (73 percent) and health and technical fields (50 percent).

Although only a little systematic evidence is available regarding the educational level of vocational education teachers, even less is known about the pedagogical skills they bring to the classroom. On the one hand, we know that vocational teachers seem to feel prepared to teach in their specialties, that students enjoy participating in these classes (Goodlad 1984, pp. 184-185), and that as a group they use a wider variety of instructional methods than do academic teachers. What we don't know, is the quality of instructional techniques used or the degree to which these pedagogical skills are attributable to teachers' levels of degree attainment or inherent in the unique aspects of the vocational education curriculum.

Given the purpose of this study, which is to provide descriptive rather than evaluative data, the decision was made to examine whether the instructional approaches used by degreed and nondegreed vocational teachers differ in any systematic ways. The primary source of the information used in carrying out this assessment was the project's observation instrument. Data from eight items on that instrument were considered. A summary of the resulting analyses is presented in figure 19.

The results shown in figure 19 suggest the following:

- The "leader" of instruction in vocational classes, which is about equally split between the "teacher" and "individual student," is not differentially

INDICATORS (Variables)	RESULTS

- The "leader" of instruction during observed episodes.

TYPES OF TEACHERS	PROPORTIONS: Teacher	Aide	Other Adult	Ind. Student
(1) Degreed (n_1=336)	.52	.01	.00	.47
(2) Nondegreed (n_2=91)	.48	.01	.01	.50

COMPARISON: χ^2=1.05, which is not significant at α=.05 level.

- Grouping of students occurring during observed episodes.

TYPES OF TEACHERS	PROPORTIONS: Individual Student	Small Group	Large Group	Whole Class
(1) Degreed (n_1=336)	.32	.28	.03	.37
(2) Nondegreed (n_2=91)	.39	.27	.03	.31

COMPARISON: χ^2=1.80, which is not significant at α=.05 level.

- Types of instructional materials being used during observed episodes.

MATERIALS	PROPORTIONS BY TYPES OF TEACHERS (1) Degreed	(2) Nondegreed	COMPARISONS
- Textbook	.10	.11	z=-0.24
- Worksheets	.20	.16	z=1.09
- AV Equipment	.05	.03	z=1.67
- Test	.04	.02	z=1.68
- Chalkboard	.07	.07	z=0.10
- Machines/Tools	.25	.31	z=-1.67
- Other Materials	.16	.16	z=0.04
- None	.05	.04	z=0.51

(Note: n_1=352, n_2=95)

- Types of instructional activities used during observed episodes.

ACTIVITIES	PROPORTIONS BY TYPES OF TEACHERS (1) Degreed	(2) Nondegreed	COMPARISONS
- AV Presentation	.02	.01	z=1.37
- Discussion	.15	.10	z=2.47*
- Lecture	.12	.10	z=0.80
- Demonstration	.04	.06	z=-1.91
- Simulation	.02	.03	z=-1.05
- Written Work	.10	.08	z=0.59
- Reading	.08	.08	z=0.41
- Practice/Physical	.28	.27	z=0.28
- Practice/Verbal	.03	.05	z=-1.03
- Test	.04	.02	z=2.18*
- Preparation for Assign.	.01	.02	z=-0.49
- Other Activity	.02	.01	z=2.97*

(Note: n_1=352, n_2=95)

* Significant at α=.05 level.

Figure 19. Results related to research question 2c–Do degreed vocational teachers use more of a variety of instructional activities and materials than do nondegreed teachers?

INDICATORS (Variables)	RESULTS

- Types of instructional events occurring during observed episodes.

INSTRUCTIONAL EVENTS	PROPORTIONS BY TYPES OF TEACHERS (1) Degreed	(2) Nondegreed	COMPARISONS:
(a) Presentation	.24	.24	
(b) Practice	.40	.46	
(c) Performance	.14	.10	χ^2=1.27
(d) Feedback	.05	.04	
(e) Some combination of a, b, c, and d	.17	.16	

(Note: n_1=249, and n_2=69)

- Types of content/topics focused on during observed episodes.

CONTENT AREAS OR FOCAL TOPICS	PROPORTIONS BY TYPES OF TEACHERS (1) Degreed	(2) Nondegreed	COMPARISONS:
- Technical Skills/Theory	.36	.33	
- Technical Skills/Practice	.48	.56	
- Employability Skills	.03	.01	
- Setup and Cleanup	.03	.02	χ^2=4.23
- Youth Organizations	.02	.00	
- Basic Skills	.03	.03	
- Other Topics	.06	.05	

(Note: n_1=336 and n_2=91)

- Types of interactions occurring during observed episodes.

TYPES OF INTERACTIONS	PROPORTIONS BY TYPES OF TEACHERS: (1) Degreed	(2) Nondegreed	COMPARISONS:
- Teacher to Student	.55	.57	
- Student to Teacher	.04	.09	χ^2=5.19
- Student to Student	.29	.28	
- Other	.11	.06	

(Note: n_1=332 and n_2=87)

- Complexity of tasks worked on during observed episodes.

TASK COMPLEXITY	PROPORTIONS BY TYPES OF TEACHERS (1) Degreed	(2) Nondegreed	COMPARISONS:
- Complex	.30	.29	
- Simple	.53	.59	χ^2=2.09
- Can't Tell	.03	.01	
- Not Applicable	.14	.11	

(Note: n_1=336 and n_2=91)

Figure 19--*Continued*

related to whether the classes are being taught by degreed or nondegreed teachers.

- Degreed and nondegreed vocational teachers do not differ in the ways in which they "group" their students for purposes of instruction.

- The types of instructional materials observed in use in vocational classes being taught by degreed and nondegreed teachers do not differ.

- Generally, the types of instructional activities observed in vocational classes being taught by degreed and nondegreed teachers did not differ. The only exceptions to this general finding were in the cases of discussions, tests, and "other activities," which were used significantly more often by degreed than by nondegreed teachers.

- The types of instructional events, the content/topics focused on, the types of interactions, and the complexity of tasks being work on that were observed in vocational classes taught by degreed and nondegreed teachers did not differ.

Basically the instructional materials and activities observed being used by degreed and nondegreed vocational teachers in their classes were the same. One potential explanation for why so few differences were found may be that in many states nondegreed teachers, like degreed teachers, must complete a sequence of pedagogical (teaching practices) courses. The actual numbers of instructional hours the nondegreed teachers receive related to classroom practices may be the same or even greater than the numbers of instructional hours provided in most vocational education preservice degree programs. Another reason for so few differences being found may be because we looked only at the mechanical/overt characteristics of the instructional materials and activities used. The "real differences" may be in the quality dimension, or in other conditions found in vocational classrooms

such as teacher/student ratios, teacher autonomy, and unique aspects of the curriculum.

How Are Reported Changes in High School Graduation Requirements Related to Vocational Enrollments across Different Types of Schools? (Question 2d)

During the early 1980s a flurry of investigative and prescriptive reports on what was right and what was wrong with public secondary education in the United States were published (e.g., A Nation at Risk, Educating America for the 21st Century, and High Schools and the Changing Workplace--The Employers View). These reports helped to usher in a new educational reform movement referred to by some as the "excellence movement" (Bennett 1986), with its attendant push for higher educational standards in course content, the use of time, and student achievement. Generally, proponents of this movement have emphasized the need for these enhanced standards to be applied--

> To all students in all schools at all levels. The consequent messages of the major reports are clear (if not unanimous). All students should undertake a tougher core curriculum with fewer electives. Stricter policies on attendance and the use of school time should be matched by firm, explicit, and demanding requirements for homework. Grades must measure actual academic accomplishment and not motivation. Promotion should be a direct result of adequate performance. Students should take tests of achievement at major points of transition. (Kaplan 1985, p. 12)

One of the net effects of the current reform movement has been to reduce significantly the time available to all students for electives, including vocational courses, due to mandated increases in high school graduation requirements. Studies by the Education Commission of the States (1983), Dyrenfurth (1985), and

Smith and Hester (1985) show that currently all states have increased their graduation requirements in response to the press for increased "excellence," but in general they have not altered the length of the school day or school year.

This national movement toward increased academic requirements within the traditional time frame for graduation has generally resulted in decreased enrollments in vocational education. Studies by the American Vocational Association (1984), Gehnke and Sheffield (1985), Price (1985), Anderson and Brouillette (1985), and Frantz, Strickland, and Elson (1986) all confirm this general trend.

Although the shrinking of elective time has been shown to be related to reduced vocational enrollments, no research has been conducted into the relationship between those time reductions, decreasing enrollments and different types of delivery systems. The need for such research was succinctly described by the National Commission on Secondary Vocational Education (1984) which noted that

> this new shrinking of elective time coincides with the earlier consolidation of vocational programs into area schools, area skills centers, or regional programs. Certain districts or administrative areas offer programs at only one site. Students who attended vocational classes at their `home' school now must be bused. Travel time eats into already tight schedules and further constrains student choice of electives. Also, students often lose access to extracurricular and other social activities at the home school-activities that integrate students across curricular and ability levels. (p. 9)

Given the lack of research into the relationship between school type, changes in graduation requirements, and vocational

enrollments, two items were included in the project instruments that would allow us to directly address this issue. One of those items was completed by the participating school principals and the other by the counselors. The analyses of the resulting data are summarized in figure 20.

The results presented in figure 20 indicate that reported changes in graduation requirements (as perceived by both principals and counselors) have not differentially affected vocational enrollments across the three different types of schools studied. Although these results clearly show that the changes that have occurred have generally led to decreased vocational enrollments (as has been noted in previous research), they do not show that those decreases are significantly larger or smaller for different types of schools.

Further inspection of figure 20 suggests that in relation to vocational specialty schools substantial proportions of the respondents reported that no changes have recently occurred in their schools' graduation requirements. This tentative finding, however, did not emerge as a statistically significant relationship during the analyses, which, when combined with the fact that small n's existed in many of the observed cells, suggests that perhaps this question needs to be researched further. That is, larger samples of schools may need to be studied before the current results are viewed as the "final" response to this question.

INDICATORS (Variables)	RESULTS

- Proportions of principals reporting how changes in graduation requirements have affected their students' participation in vocational programs.

PRINCIPALS' RESPONSES	PROPORTIONS BY TYPES OF SCHOOLS: (1) Comprehensive	(2) Area Vocational	(3) Voc. Specialty
- No Changes Occurred	.06	.09	.20
- Changes Increased Part.	.06	.09	.07
- Changes Decreased Part.	.45	.64	.60
- Changes Did Not Affect Participation	.43	.18	.13

COMPARISON: χ^2=6.73, which is not significant at α=.05 level.
(Note: n_1=49, n_2=33, n_3=15 and χ^2 was corrected for small n's.)

- Proportions of counselors reporting how changes in graduation requirements have affected their students' participation in vocational programs.

COUNSELORS' RESPONSES	PROPORTIONS BY TYPES OF SCHOOLS: (1) Comprehensive	(2) Area Vocational	(3) Voc. Specialty
- No Changes Occurred	.12	.03	.24
- Changes Increased Part.	.10	.03	.00
- Changes Decreased Part.	.58	.68	.44
- Changes Did Not Affect Participation	.20	.26	.31

COMPARISON: χ^2=5.34, which is not significant at α=.05 level.
(Note: n_1=60, n_2=34, n_3=16 and χ^2 was corrected for small n's.)

Figure 20. Results related to research question 2d--How are reported changes in high school graduation requirements related to vocational enrollments across different types of schools?

To What Extent Do Students in Vocational Classes in Different Types of Schools Have Access to Counselors and Selected Counseling Services? (Question 2e)

Career guidance and counseling is treated as an integral and pervasive component of vocational education in the Carl D. Perkins Vocational Education Act of 1984. Provisions for guidance in the Perkins Act are more extensive than in the previous legislation--in the new legislation, guidance is viewed as a major component in the vocational delivery system. Specifically, part D of the Perkins Act mandates that career guidance and counseling programs be improved, expanded, and extended "to meet the career development, vocational education, and employment needs of vocational students and potential students." (P.L. 98-524, section 332, p. 2,462).

The National Commission on Secondary Vocational Education (1984) has spoken directly to the need for improved career guidance and counseling. The commission stated:

> Inadequate student knowledge subtly but formidably constrains student access to vocational education. Students and parents need to be accurately informed about what vocational education is, how it relates to their personal and career goals, and how it can be used to help them achieve their goals. One does not choose what one knows little about or is constrained from choosing by unexamined social attitudes.
>
> We need comprehensive career guidance programs that will provide this information and remove some of the subtle status distinctions involving vocational education. Comprehensive guidance means counseling that is available to all students, covering all subjects, leading to all occupations.
>
> We cannot achieve this goal of comprehensive guidance when counselors must deal, on the average, with 400 or more students. Nor can this goal be achieved unless counselors and teachers cooperate in new approaches to facilitate the career development of students, unless counselors expand their use of group techniques,

> computer-assisted guidance, comprehensive career information systems, and other methods designed to provide assistance to all students. Counselors must serve as a resource to integrate career guidance concepts and occupational information in the classroom. (p. 10)

In a recent report Hotchkiss and Vetter (1987) noted:

> If one considers all students who complete at least one vocational course in high school, more than 90 percent of the secondary school population (unpublished tabulation from HS&B data) could be affected by guidance programs under the Perkins Act. Existing empirical evidence suggests that youth who need help in formulating their career goals and actions often have not received comprehensive guidance assistance. For example, Ekstrom and Lee (1986) reported that they found, in a national sample, that guidance and counseling services appear to be unequally available to all public high school students. They indicated that students from families of lower socioeconomic status, of minority status, and from small schools in rural areas are less likely to have access to guidance counseling for selecting a high school curriculum or planning an appropriate course of study. They go on to state that it appears that students who may need such guidance the most, since they come from home environments where knowledge of the consequences of curricular choices is limited, are least likely to receive it in their schools. (p. 2)
>
> Ekstrom and Lee found that access to counseling for post-high school plans (both career counseling and college counseling) was more equitable. However, 44 percent of high school seniors reported they had not been influenced by a counselor in making these plans. Students in the general curriculum appeared to have been most likely to be deprived of counseling for further education or employment. (p. 3)

Boyer (1983) in his study of secondary schools reported that at each of the 15 schools they visited the counselors were shockingly overloaded, with little time to talk to students or even to stay informed themselves. He also noted that vocational students occasionally got fragments of advice about job prospects, but more often than not, they were on their own. Also, it

appeared to him that school counselors were more confident in helping students who were college bound. This general perspective basically reflects the view portrayed by Benson (1982) as well.

With regard to the relationship between the availability of career guidance/counseling services and delivery systems, little research has been completed. Although the work of Benson (1982) suggests that guidance counselors in comprehensive high schools tend to have an adverse effect upon contacts between vocational students and employers, as noted earlier, the data upon which that limited conclusion is based is largely anecdotal and obtained from a restricted sample of high schools.

Given this relative informational void a variety of items were included in the survey instruments that dealt with the availability and kinds of guidance services provided in different types of secondary schools. Those items were part of the student interviews, teacher questionnaires, principal questionnaires, and counselor questionnaires. For the most part, they addressed the limitations listed earlier in the statement by The National Commission on Secondary Vocational Education. The analyses of the data secured in those different items are summarized in figure 21.

The results presented in figure 21 indicate the following:

- The average numbers of minutes students across the three types of schools report spending with their guidance counselors do not differ significantly. (Although at first glance it appears that students in vocational specialty schools spend less time with their counselors than students in the other two types of schools, that initial impression was not borne out by the statistical results.)

INDICATORS (Variables)	RESULTS

- Average number of minutes students report spending with a guidance counselor over past year.

STATISTICS BY TYPES OF CLASSES:

TYPES OF SCHOOLS	(1) Vocational $\bar{x}$	(1) Vocational n	(2) Nonvocational $\bar{x}$	(2) Nonvocational n	Both Types Combined $\bar{x}$	Both Types Combined n
- Comprehensive	86.6	215	83.1	76	85.7	291
- Area Vocational	80.3	174	89.9	48	82.4	222
- Vocational Specialty	63.5	65	55.3	21	61.5	86

COMPARISONS: F-Interaction=0.20 and F-School Type=1.57, where MS Error=12,644

- Numbers of counselors reported by principals as working in their schools.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	3.75	52	MS Error=3.35 and
- Area Vocational	1.62	26	F=12.2*
- Vocational Specialty	2.59	17	

- Counselor-student ratios reported by school counselors.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	353.2	62	MS Error=43,881.2
- Area Vocational	453.5	31	and F=2.39
- Vocational Specialty	397.5	17	

- Numbers of professional guidance staff reported by counselors as working in their school **half time or more.**

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	3.82	60	MS Error=5.16 and
- Area Vocational	2.00	28	F=6.41*
- Vocational Specialty	2.81	16	

- Proportion of vocational teachers who report that job placement services are available to their students.

PROPORTIONS BY SCHOOL TYPES:

TYPES OF SCHOOLS	Yes, All St.	Yes, Voc. St.	NO	COMPARISON
- Comprehensive	.37	.19	.44	χ^2=78.5 which
- Area Vocational	.38	.29	.34	is significant at
- Vocational Specialty	.65	.20	.14	=.05 level.

- Hours per week teachers report working collaboratively with guidance/counseling and placement staff.

STATISTICS BY TYPES OF CLASSES:

TYPES OF SCHOOLS	(1) Vocational $\bar{x}$	(1) Vocational n	(2) Nonvocational $\bar{x}$	(2) Nonvocational n	Both Types Combined $\bar{x}$	Both Types Combined n
- Comprehensive	1.63	459	1.67	735	1.65	1194
- Area Vocational	1.79	561	1.76	82	1.79	643
- Vocational Specialty	1.95	248	1.71	112	1.88	360

COMPARISONS: F-Interaction=0.96 and F-School Type=18.91*, where MS Error=0.47

* Significant at α=.05 level.

Figure 21. Results related to research question 2e–To what extent do students in vocational classes in different types of schools have access to counselors and selected counseling services?

INDICATORS (Variables)	RESULTS

- Approximate hours per month teachers report working with guidance staff on--(a, b, c)

(a) Conferring about test scores, etc. for individual students

STATISTICS BY TYPES OF CLASSES:

TYPES OF SCHOOLS	(1) Vocational $\bar{x}$	(1) Vocational n	(2) Nonvocational $\bar{x}$	(2) Nonvocational n	Both Types Combined $\bar{x}$	Both Types Combined n
- Comprehensive	1.81	456	1.96	736	1.90	1192
- Area Vocational	1.97	570	2.29	82	2.01	652
- Vocational Specialty	2.00	256	2.05	115	2.02	371

COMPARISONS: F-Interaction=7.86* and F-School Type=5.56*, where MS Error=0.67

(b) Preparing IEPs or other program plans for individual students

STATISTICS BY TYPES OF CLASSES:

TYPES OF SCHOOLS	(1) Vocational $\bar{x}$	(1) Vocational n	(2) Nonvocational $\bar{x}$	(2) Nonvocational n	Both Types Combined $\bar{x}$	Both Types Combined n
- Comprehensive	1.27	451	1.33	730	1.31	1181
- Area Vocational	1.40	561	1.61	82	1.43	643
- Vocational Specialty	1.29	251	1.52	113	1.36	364

COMPARISONS: F-Interaction=6.80* and F-School Type=5.70*, where MS Error=0.53

(c) on career guidance activities

STATISTICS BY TYPES OF CLASSES:

TYPES OF SCHOOLS	(1) Vocational $\bar{x}$	(1) Vocational n	(2) Nonvocational $\bar{x}$	(2) Nonvocational n	Both Types Combined $\bar{x}$	Both Types Combined n
- Comprehensive	1.63	454	1.24	724	1.39	1178
- Area Vocational	1.79	566	1.52	81	1.76	647
- Vocational Specialty	1.81	253	1.35	114	1.67	367

COMPARISONS: F-Interaction=0.96 and F-School Type=45.02*, where MS Error=0.71

* Significant at α=.05 level.

Figure 21--*Continued*

- As reported by principals and counselors, the number of counselors available in comprehensive schools is significantly greater than the number available in area vocational schools, with vocational specialty schools falling between these extremes.

- No differences were observed across the three types of schools in terms of counselor-student ratios (with the common ratio estimated to be approximately 1 counselor per 390 students).

- The proportions of vocational teachers in comprehensive and area vocational schools who report that no placement services are available for their students are significantly greater than the proportion of vocational teachers in vocational specialty schools who report that such services are not provided for their students.

- Teachers (both vocational and nonvocational) in comprehensive schools report spending significantly less time working with their guidance/counseling and placement staff than the teachers in area vocational and vocational specialty schools.

- Teachers in comprehensive schools report spending significantly less time conferring with counselors about students test scores than do teachers in area vocational and vocational specialty schools. (This pattern is particularly obvious for vocational teachers, while the primary difference noted for the nonvocational teachers was between the area vocational schools and the other two types of schools.)

- Teachers in comprehensive schools report spending significantly less time conferring with counselors regarding IEPs and similar program plans than do teachers in area vocational schools, with the teachers in vocational specialty schools falling between these two extremes. (With regard to vocational teachers alone, the key difference appears to be between teachers in area vocational schools and teachers in the other two types of schools, whereas for nonvocational teachers the major difference is between comprehensive schools and the other two types of schools.)

- Teachers in comprehensive schools report spending significantly less time conferring with counselors about career guidance activities than do teachers in area vocational and vocational specialty schools.

In summary, the preceding results are mixed. First, they indicate that students across the three types of schools spend similar amounts of time interacting with their counselors. Second, they indicate that there are generally more guidance personnel (as well as more students) housed in comprehensive schools than in the other two types of schools. Finally, they indicate that teachers in area vocational and vocational specialty schools are generally involved more with their schools' guidance/counseling personnel than are the teachers in comprehensive schools. Such diverse results do not lend unequivocal support to the position that the availability of counseling services in any of the three types of schools differ from (i.e., are poorer or better than) those provided in the other two types of schools. Furthermore, they suggest that more intensive research is needed into this issue--research that looks at the quality dimension as well as the operational characteristics of the counseling/guidance programs considered. This additional emphasis would seem to be well warranted by the relative importance placed on career guidance in the Perkins Act.

What Linkages Exist between Different Types of Schools That Offer Vocational Programs and Various Community-Based Organizations? (Question 2f)

Sprinkled throughout the Perkins Act are statements and requirements that are intended to extend and help strengthen linkages between the formal vocational education delivery system and different community-based organizations. Typically those statements/requirements are associated with strengthened delivery

of services to different special populations to be served under the act (e.g., single parents/homemakers and displaced workers). However, the act also calls for the direct support of such agencies (Title III-Special Programs) in regard to providing--

(1) outreach programs to facilitate the entrance of youth into a program of transitional services and subsequent entrance into vocational education, employment or other education and training;
(2) transitional services such as attitudinal and motivational prevocational training programs;
(3) prevocational educational preparation and basic skills development conducted in cooperation with business concerns;
(4) special prevocational preparations programs targeted to inner-city youth, non-English speaking youth, Appalachian youth, and the youth of other urban and rural areas having a high density of poverty who need special prevocational education programs;
(5) career intern programs;
(6) assessment of students needs in relation to vocational education and jobs; and
(7) guidance and counseling to assist students with occupational choices and with the selection of a vocational education program. (U.S. House of Representatives 1984, pp. 25-26)

Despite this legislated impetus, which historically began before enactment of the Perkins Act,--

> productive partnerships between community groups and school systems have tended to be the exception rather than the rule. Supporters of community-based organizations have been advocating closer coordination between their groups and school systems for years, and provisions to promote coordination have been incorporated into much of the employment and training legislation of the 1970's and 1980's, yet, as noted by Campbell-Thrane and Jahnke (1981), the results have been sporadic at best. (Bailes 1987, p. 2)

Given the general sparcity of productive relationships between CBOs and the public vocational education delivery system, it is not surprising that relatively little research has been conducted regarding such linkages. According to Bailes (1987),

the research that has been done is focused somewhat upon relationships that involve CBOs serving disadvantaged groups, particularly in relation to training provided under the auspices of the Department of Labor. This general void in the research literature is particularly evident when it comes to research dealing with relationships between CBOs and the specific types of schools which operationally define the vocational education delivery system.

In order to help address the current lack of data regarding CBO-school type relationships, several items were included in the survey instruments that dealt with this concern. Three of those items were in the principal questionnaire. Those items dealt with principals' reports of several types of linkages between the schools and the CBOs in their areas. A fourth item was contained in the counselor questionnaire. That item addressed the frequency with which the counselors or their staffs reported working with CBOs. The analyses of the data secured via these different items are summarized in figure 22.

The results found in figure 22 indicate that the linkages between the three types of schools studied and various community-based organizations do not differ appreciably. At the same time, they show--

- the influence of CBOs upon the content and delivery of teacher inservice activities provided by the sampled schools is relatively small;
- about half the cooperating schools reported having some type of linkage(s) with CBOs; and
- the counseling personnel in the three types of schools report that they occasionally work with the CBOs in their areas.

INDICATORS (Variables)	RESULTS**

- Principals' perceptions of the influence of JTPA and similar agencies on (a) establishing inservice training for teachers and (b) determining the approaches used in delivering that training to teachers. (Ratings range from 1=none to 4=a great deal).

(a) Establishing the curriculum

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
(1) Comprehensive	1.45	51	MS Error=0.45 and F=0.73
(2) Area Vocational	1.63	35	
(3) Vocational Specialty	1.53	17	

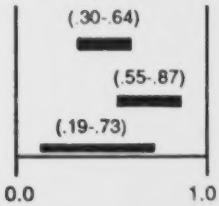
(b) Determining approaches

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
(1) Comprehensive	1.43	53	MS Error=0.37 and F=0.25
(2) Area Vocational	1.53	36	
(3) Vocational Specialty	1.47	17	

- Proportion of principals indicating that their schools provide facilities or teachers for JTPA, apprenticeship or other programs sponsored by various community-based organizations.

TYPES OF SCHOOLS	STATISTICS: $\hat{p}$	n
(1) Comprehensive	.47	34
(2) Area Vocational	.71	31
(3) Vocational Specialty	.46	13
(All 3 types combined)	(.56)	(78)

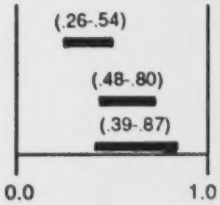
COMPARISON: χ^2=4.50, which is not significant at α=.05 level.



- Proportion of principals reporting that some types of linkages exist between their schools and JTPA-sponsored agencies in their areas.

TYPES OF SCHOOLS	STATISTICS: $\hat{p}$	n
(1) Comprehensive	.40	47
(2) Area Vocational	.64	33
(3) Vocational Specialty	.63	16
(All 3 types combined)	(.52)	(96)

COMPARISON: χ^2=5.39, which is not significant at α=.05 level.



- Frequency with which guidance/counseling staff reported working with JTPA-sponsored agencies and other community-based organizations. (Ratings range from 1=never to 4=routinely.)

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
(1) Comprehensive	3.00	61	MS Error=0.86 and F=0.57
(2) Area Vocational	3.12	34	
(3) Vocational Specialty	2.82	17	

** The graphs shown depict 95% confidence intervals for each of the designated variables and types of schools (i.e., 1=comprehensive, 2=area vocational, and 3=vocational specialty).

Figure 22. Results related to research question 2f--What linkages exist between different types of schools that offer vocational programs and various community-based organizations?

Furthermore inspection of figure 22 reveals that across each of the variables studied there tended to be slightly, though not significantly, greater involvement reported for area vocational schools (particularly in relation to the comprehensive schools). This observation however, needs to be validated through additional, more intensive research. That research should involve both larger samples of schools as well as more directed and explanatory types of probes (i.e., items that provide more detailed descriptive data regarding the nature and intensity of the linkages under consideration). If such additional research is not conducted, the kinds of linkages and related benefits sought by the Perkins Act will almost certainly continue to be undocumented, elusive, and sporadic at best.

How Are Institutional Types, Size, and Location Related to Numbers and Kinds of Vocational Program Offerings? (Question 2g)

As pointed out in relation to question 2a--Is the relative emphasis placed on basic skills reinforcement/enhancement different in area versus vocational specialty versus comprehensive high schools?--the general perception based upon the limited research available is that institutional type, size, and location are each related to both the numbers and types of vocational programs offered in secondary schools. Furthermore, that research generally suggests that comprehensive schools would rate lower on both variables than area vocational and vocational specialty schools. The purpose of the analyses summarized in figure 23 is to update (and in some instances, perhaps replicate) those earlier

INDICATORS (Variables)	RESULTS

- Numbers of vocational program offerings by (a) service areas (1 to 8--agriculture, business and office, health, marketing and distributive education, occupational home economics, trade and industrial, industrial arts, and consumer and homemaker education) and by (b) total number of vocational programs offered.

(a) Number of service areas

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISONS
- Comprehensive	5.3	63	MS Error=1.40 and
- Area Vocational	4.7	38	F=10.26*
- Vocational Specialty	4.0	19	
LOCATION OF SCHOOLS			
- Urban	4.9	44	MS Error=1.69 and
- Suburban	4.8	33	F=0.13
- Rural	4.9	43	
SIZES OF SCHOOLS (Defined by no. students)	r=.28	107	t=2.97*

(b) Number of program offerings

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISONS
- Comprehensive	9.1	63	MS Error=33.80
- Area Vocational	12.6	38	and F=5.63*
- Vocational Specialty	13.0	19	
LOCATIONS OF SCHOOLS			
- Urban	12.1	44	MS Error=36.04
- Area Vocational	9.9	33	and F=1.69
- Rural	10.1	43	
SIZES OF SCHOOLS (Defined by no. students)	r=.04	107	t=0.42

- Kinds of vocational program offerings, where 1=Agriculture, 2=Business and Office, 3=Health, 4=Marketing and DE, 5=Occupational Home Economics, 6=Trade and Industrial, 7=Industrial Arts, and 8=Consumer and Homemaker Education.

TYPES OF SCHOOLS	PROPORTIONS PER SERVICE AREA: 1	2	3	4	5	6	7	8
- Comprehensive (n=6.37)	.41	.97	.22	.59	.49	.80	.91	.91
- Area Vocational (n=38)	.52	.95	.74	.66	.74	.99	.00	00
- Vocational Specialty (n=19)	.21	.90	.68	.47	.68	.99	.00	.00
COMPARISONS (χ^2 Values):	6.00*	0.57	27.04*	1.11	6.58*	9.10*	92.79*	92.79*
LOCATIONS OF SCHOOLS								
- Urban (n=44)	.34	.96	.55	.71	.61	.93	.41	.41
- Suburban (n=33)	.27	.97	.46	.58	.55	.94	.52	.52
- Rural (n=43)	.65	.93	.37	.49	.63	.84	.51	.51
COMPARISONS (χ^2 Values):	11.47*	0.12	2.03	3.37	0.26	1.67	0.72	0.72

* Significant at α =.05 level.

Figure 23. Results related to research question 2g--How are institutional type, size, and location related to numbers and kinds of vocational program offerings?

INDICATORS (Variables)	RESULTS							
	PROPORTIONS PER SERVICE AREA:							
SIZES OF SCHOOLS	1	2	3	4	5	6	7	8
- Up to 400 students (n=22)	.41	.86	.23	.41	.55	.86	.36	.36
- 401 to 800 students (n=30)	.57	.99	.73	.67	.63	.90	.27	.27
- 801 to 1400 students (n=31)	.39	.97	.52	.65	.68	.94	.45	.45
- Over 1400 students (n=24)	.33	.99	.29	.67	.50	.92	.79	.79
COMPARISONS (χ^2 Values):	2.42	4.20	14.11*	3.28	1.24	0.23	13.62*	13.62*

* Significant at α =.05 level.

Figure 23--*Continued*

results via a more contemporary database as well as to further explicate those relationships.

The results shown in figure 23 indicate the following:

- Both the number of service areas in which vocational programs are offered and the total number of vocational programs offered are related to school type. More specifically, in comprehensive schools programs are offered across significantly more service areas than in either area vocational or vocational specialty schools. At the same time, however, the total number of vocational program offerings available in comprehensive schools is significantly less (i.e., about 25 percent less) than the numbers of offerings available in area vocational and vocational specialty schools.

- Neither the number of service areas covered nor the total number of vocational programs offered appear to be systematically related to school location.

- The size of the school considered has a significant positive relationship with the number of service areas in which vocational programs are offered, but little, if any, relationship with the total number of programs offered.

- School type is also related to the kinds of vocational offerings provided. That is, agriculture programs are offered less frequently in vocational specialty than in area vocational and comprehensive schools; health, occupational home economics, and T&I programs are offered less frequently in comprehensive schools than in either area vocational or vocational specialty schools; and both industrial arts and consumer/homemaker education program are seldom, if ever, offered in either area vocational or vocational specialty schools.

- School location is differentially related to kinds of programs offered to the extent that agriculture programs are more frequently found in rural schools than in either suburban or urban schools.

- With regard to school size and kinds of vocational offerings, medium-sized schools more frequently offer health-related programs than do either large or small schools and large schools more frequently offer industrial arts and consumer/homemaker education than do medium-sized and small schools.

Generally, the observed results reflect patterns one might expect to observe. For example, agriculture programs are found most frequently in rural schools; health and occupational home economics programs are found more often in area vocational and vocational specialty schools than in comprehensive schools; and industrial arts and consumer/homemaker education programs are found almost exclusively in comprehensive high schools.

At the same time, these results partially support those noted in earlier research, which suggest that the vocational offerings available in comprehensive schools are restricted in number and "shallow" in content (Boyer 1983). More specifically, the findings regarding school type and kinds/numbers of vocational program offerings indicate quite clearly that in comprehensive schools the fewer programs offered are spread across more service areas. If one views vocational education's primary goal as job-specific training (whether that training is provided in a comprehensive school or in one of the other types of institutions), then it appears that comprehensive schools are somewhat inadequate in terms of the "depth" of their vocational offerings. If, however, one views "career exploration" (Hoachlander 1986) as a major goal of vocational education, then the comprehensive schools appear to provide a wider array of such exploratory opportunities for students to choose from than do area vocational and vocational specialty schools. Overall, it appears that in our society the role of the comprehensive school is becoming more focused on such "career exploration" goals (though perhaps not by design), while the role of the other two types of

schools is becoming more focused on job-specific skill training. Although such a division of emphasis is not inherently "bad", it could cause some problems when one or the other of the two types of schools/experiences is unavailable to students, and their needs (both as related to career exploration and job specific skill training) are not adequately addressed.

What Kinds of Professional Improvement (Inservice) Opportunities Are Afforded Vocational Teachers and Do Those Opportunities Differ across Different Types of Schools? (Question 2h)

Each major part of the Perkins Act contains some mention of the need to improve the curricula, materials, procedures, or instruction occurring in the type(s) of vocational programs to be funded under that segment of the act. Such requirements indicate the weight placed on professional improvement activities as a vehicle for bringing about changes and improvements in all areas of the field.

Despite this emphasis on professional improvement in the legislation, as indicated earlier in relation to question 2a, relatively little research has been conducted which describes the kinds of professional improvement activities that are made available to vocational teachers across different types of institutions. Two studies that are somewhat tangentially related to this issue are those reported by Benson and Hoachlander (1981) and Evans (1982). Generally, those authors conclude that area vocational and vocational specialty schools are able to employ more experienced staff than are comprehensive high schools. In addition, they contend that such institutions are able to pay

higher salaries, are more likely to hire additional part-time instructors when they are needed, and have more flexibility in dismissing instructors in areas no longer required by the local labor market. Although these studies address the issue of teacher quality and training, they are tangential to the issue at hand, since they do not yield insights related directly to the kinds of improvement (inservice) opportunities provided to the teachers in the different types of institutions studied.

Given the relative sparseness (as well as the datedness) of the research in this area, a series of questions related to the frequency and nature of the professional development opportunities afforded vocational teachers in the different types of schools studied was included in two of the survey instruments. Three of those items were part of the teacher questionnaire and one was included in the counselor questionnaire. The analyses of the data obtained using those items are summarized in figure 24.

The results presented in figure 24 suggest the following:

- The amount of money reported by principals in area vocational schools as being spent on teacher inservice activities is somewhat, though not significantly, greater than the amounts reported by principals in comprehensive and vocational specialty schools.

- The hours per week that teachers in area vocational schools report spending on obtaining additional professional training is significantly greater than the hours spent on such activities by teachers in comprehensive schools, with the time spent by teachers in vocational specialty schools falling between these two extremes.

- The amount of "whole school" inservice provided teachers in vocational specialty schools is significantly less than the amount of "whole school" inservice provided those in both area vocational and comprehensive schools. With regard to vocational

INDICATORS (Variables)	RESULTS

- Amount (per teacher) reported by principals as being spent during the past year on in-service and other professional development activities.

STATISTICS:

TYPES OF SCHOOLS	$\bar{x}$	n
- Comprehensive	158.8	36
- Area Vocational	313.9	30
- Vocational Specialty	150.1	12

COMPARISON: F-School Type=2.80 and MS Error=81,671

- Hours per week reported by teachers as being spent obtaining additional professional training.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	1.94	459	1.77	730	1.84	1189
- Area Vocational	2.06	569	1.82	83	2.03	652
- Vocational Specialty	2.01	253	1.85	113	1.96	366

COMPARISONS: F-Interaction=0.20 and F-School Type=11.23*, where MS Error=0.75

- Numbers of half-days reported by teachers as spent in inservice programs during the last year that were held for (a) the whole school staff and (b) a small group of teachers (e.g., a department).

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
(a) Whole school						
- Comprehensive	3.77	447	3.69	727	3.72	1174
- Area Vocational	3.77	561	4.11	81	3.81	642
- Vocational Specialty	3.41	250	3.53	113	3.39	363

COMPARISONS: F-Interaction=1.84and F-School Type=7.72*, where MS Error=2.76

(b) Small group						
- Comprehensive	3.05	407	2.84	635	2.92	1042
- Area Vocational	2.73	465	3.32	76	2.81	541
- Vocational Specialty	2.84	212	2.92	101	2.86	313

COMPARISONS: F-Interaction=5.84* and F-School Type=0.79, where MS Error=2.89

* Significant at α=.05 level.

Figure 24. Results related to research question 2h–What kinds of professional improvement (inservice) opportunities are afforded vocational teachers and do those opportunities differ across different types of schools?

INDICATORS (Variables)	RESULTS						
• Numbers of hours of non-college inservice training reported by teachers as being received in the area of--		TYPES OF CLASSES					
		(1) Vocational		(2) Nonvocational		Both Types Combined	
	TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
(a) Procedures and techniques for teaching gifted/talented students	- Comprehensive	1.50	462	1.67	733	1.60	1195
	- Area Vocational	1.48	572	1.66	83	1.50	655
	- Vocational Specialty	1.32	259	1.34	117	1.33	376
	COMPARISONS: F-Interaction=0.89 and F-School Type=12.62*, where MS Error=0.88						
(b) Teaching the handicapped	- Comprehensive	1.62	462	1.55	733	1.58	1195
	- Area Vocational	1.61	572	1.71	83	1.62	655
	- Vocational Specialty	1.41	259	1.66	117	1.48	376
	COMPARISONS: F=Interaction=3.38* and F-School Type=2.08, where MS Error=1.07						
(c) Working with and teaching Limited English Proficiency students	- Comprehensive	1.22	462	1.22	733	1.22	1195
	- Area Vocational	1.14	572	1.33	83	1.16	655
	- Vocational Specialty	1.19	259	1.28	117	1.22	376
	COMPARISONS: F-Interaction=1.78 and F-School Type=1.73, where MS Error=0.41						
(d) Teaching disadvantaged and dropout prone students	- Comprehensive	1.64	462	1.57	733	1.60	1195
	- Area Vocational	1.56	572	1.80	83	1.59	655
	- Vocational Specialty	1.54	259	1.60	117	1.60	376
	COMPARISONS: F-Interaction=2.68 and F-School Type=0.19, where MS Error=1.04						
(e) Working with and teaching students in programs that are non-traditional for their sex	- Comprehensive	1.44	462	1.20	733	1.29	1195
	- Area Vocational	1.41	572	1.23	83	1.39	655
	- Vocational Specialty	1.41	259	1.26	117	1.36	376
	COMPARISONS: F-Interaction=0.53 and F-School Type=3.82, where MS Error=0.54						
(f) Addressing the needs of single parents.	- Comprehensive	1.28	462	1.12	733	1.18	1195
	- Area Vocational	1.13	572	1.12	83	1.13	655
	- Vocational Specialty	1.14	259	1.15	117	1.15	376
	COMPARISONS: F-Interaction=8.49* and F-School Type=1.76, where MS Error=0.29						
(g) Teaching basic skills in your subject area	- Comprehensive	2.80	462	2.63	733	2.70	1195
	- Area Vocational	2.83	572	2.81	83	2.82	655
	- Vocational Specialty	2.51	259	2.39	117	2.48	376
	COMPARISONS: F-Interaction=0.26 and F-School Type=5.67*, where MS Error=2.56						

* Significant at $\alpha = .05$ level.

Figure 24--*Continued*

teachers, the amount of "small-group" inservice provided in comprehensive schools is significantly greater than that provided in area vocational schools, with the amount provided in vocational specialty schools falling in between.

- Teachers in comprehensive and area vocational schools report receiving more inservice training in procedures for dealing with gifted/talented students than do teachers in vocational specialty schools.

- Vocational teachers in comprehensive and area vocational schools report that they have received more inservice training in teaching the handicapped than do vocational teachers in vocational specialty schools.

- No significant differences exist across the three types of schools in terms of the amount of inservice provided for teaching LEP and disadvantaged/dropout-prone students.

- Teachers in comprehensive schools report receiving significantly less inservice regarding students in programs that are nontraditional for their sex than do teachers in area vocational schools, with the teachers in vocational specialty schools falling between these extremes.

- The teachers in comprehensive schools report receiving significantly more inservice training regarding the needs of single parents than do the teachers in area vocational and vocational specialty schools.

- Teachers in area vocational schools report that they have received significantly more hours of inservice training in teaching basic skills in their subject areas than teachers in vocational specialty schools, with the teachers in comprehensive schools falling between these two extremes.

At first glance these results suggest that the relationship between school type and inservice training is not a simple, straightforward relationship. One slight trend, however, that does surface from the data is that the amounts of inservice provided teachers in area vocational schools generally appear to be somewhat greater than those afforded teachers in the two other

types of schools, particularly the teachers in vocational specialty schools. The exceptions to this trend occur in the case of "small-group" inservice activities, where more such training is reported in comprehensive and vocational specialty schools; and in the case of inservice training directed toward addressing the needs of single parents, where more such training appears to be provided in comprehensive schools than in either area vocational or vocational specialty schools.

Although these results suggest that the amounts and types of inservice provided in area vocational schools are somewhat greater than that provided in the other two types of schools, they would not support the conclusion that less inservice is being provided in comprehensive schools as might be suggested by some previous research. For that matter, in regard to inservice training related to teaching the handicapped, teaching gifted/talented students, teaching single parents, and teaching basic skills (all emphasized in the Perkins Act), the current results seem to indicate that improvements are needed more in the inservice offerings provided teachers in vocational specialty schools rather than just comprehensive schools.

Are the Personnel Involved in the Delivery of Secondary Vocational Programs Directly Involved in Community-Wide Economic Development Activities? (Question 2i)

The economic condition of our country is based upon a number of complex and interrelated factors, one of which is the availability of a trained, skilled work force (Grubb 1986, Marshall 1986). Whereas the economic impact of vocational

education has been debated, the 98th Congress was sufficiently concerned about vocational education's role in supplying trained workers that it authorized under section 251 of the Carl Perkins Act (U.S. Congress 1984) the expenditure of funds available under the act for various needs related to economic development that were identified in each state's state plan. Activities specifically mentioned include implementing new, and expanding existing vocational programs in economically depressed areas; developing new, or expanding existing worker retraining programs if those programs are necessary to revitalize existing enterprises or attract new ones; and improving vocational education programs, including high-technology programs.

Conroy (September 1980) suggests that the current structuring of the debate concerning the impact of vocational education to reflect the criteria presently used to evaluate the effectiveness of vocational education may not be entirely appropriate. Those criteria are as follows:

- Vocational education's ability to improve work opportunities for the disadvantaged
- Vocational education's contribution to economic equity and economic growth
- Vocational education's rate of placement of graduates in jobs related to training
- Vocational education's ability to affect positively the wages of its graduates

In addition, Conroy contends the currently available analyses of these criteria are invalid, due to the poor quality of the data on which those analyses are based. The impact of vocational

education on the economy therefore, has not been accurately measured and evaluated.

The exact role and effect of vocational education on economic development is a major issue, one best dealt with as a separate study. However, given the relative absence of data, as well as congressional concern for this issue, the decision was made in this study to explore the involvement of school personnel in economic development activities outside the classroom as individual citizens. Items were therefore included in the survey instruments that dealt with the involvement of different school personnel in community-wide economic development activities. Those items were part of the teacher, principal, and counselor interviews. The results obtained via those items are summarized in figure 25.

The results shown in figure 25 indicate the following:

- About half the principals (52 percent) reported that they or someone on their staff were involved in community-wide economic development activities. Also, the principals in area vocational schools reported significantly more often than the principals in comprehensive schools that members of their staff participated in such activities, whereas the reports of principals in vocational specialty schools fell between those two extremes.

- There were no major differences found between school types in terms of counselors' reports of their participation in community-wide economic development activities. Overall, about 25 percent of the respondents reported that they were involved in such activities.

- The teachers in area vocational schools (14 percent) are more likely to report being involved in community-wide economic development activities than are the teachers in vocational specialty schools (4 percent) whereas the teachers in comprehensive schools (10 percent) fall between these two groups. In addition, vocational teachers (about 12 percent

INDICATORS (Variables)	RESULTS

- Principal's reports of school's (and it's personnel's) representation in community-based economic development activities.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	1.37	52	F-School Type=6.97*
- Area Vocational	1.75	36	and MS Error=0.23
- Vocational Specialty	1.53	17	
(All 3 Types Combined)	(1.52)	(105)	

- Counselor's reports of their staff's participation in community-wide economic development activities.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	1.20	61	F-School Type=1.88
- Area Vocational	1.35	34	and MS Error=0.20
- Vocational Specialty	1.38	16	
(All 3 Types Combined)	(1.27)	(111)	

- Teachers' reports of their direct involvement in community-based economic development activities.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	.11	331	.07	118	.10	449
- Area Vocational	.17	202	.07	62	.14	264
- Vocational Specialty	.05	99	.03	38	.04	137

COMPARISONS: F-Interaction=0.59, F-School Type=5.10*, and F-Class Type=6.17*, where MS Error=0.09

* Significant at $\alpha = .05$ level.

Figure 25. Results related to research question 2i–Are the personnel who are responsible for the delivery of secondary vocational programs directly involved in community-wide economic development programs?

> across all three types of schools) are significantly more likely to report that they are involved in such economic development activities than are nonvocational teachers (about 6 percent).

Overall, these results suggest that personnel in area vocational schools are generally either as involved or more involved in community-wide economic development activities than personnel in the two other types of schools. (In several cases those differences reached statistical significance). In addition, those results indicate that vocational teachers are more likely to be involved in community-wide economic development activities than are nonvocational teachers. At the same time, however, the available data are silent when it comes to describing the specific nature of the activities in which these personnel are involved or the "quality" of that involvement. Furthermore, given the absence of an adequate baseline, it is not possible to meaningfully assess the adequacy of reported involvement. Clearly, additional research is warranted in order to further explore this issue.

To What Extent Is the Preparation of Students for Entry into Postsecondary Institutions Emphasized in Different Schools that Offer Vocational Programs? (Question 2j)

In some quarters vocational education is perceived as strictly preparing students for "hand" occupations such as low-status, blue-collar jobs that don't require a college or professional degree (National Commission on Secondary Vocational Education 1984). Such a perspective was described by Boyer (1983) who noted,

> increasingly, it appears, high school vocational programs will be either irrelevant or inadequate. At one end will be low-paying, dead-end jobs for which

> formal education will not be required and to which precious school time should not be given . . . Job training is being acquired at the high cost of a quality education. And the options for the future are restricted." (p. 123)

Furthermore, as noted by Campbell, Gardner, and Seitz (1982), it has frequently been argued that participation in secondary vocational education even discourages the pursuit of postsecondary education.

Generally, the available research in this area (e.g., Alexander, Cook, and McDill 1978; Grasso and Shea 1979; Gelb 1979; Meyer 1981; and Campbell, Gardner, and Seitz 1982) suggests that there is a "negative effect" associated with participation in the vocational curriculum (as well as the general curriculum) when compared to participation in the academics curriculum. At the same time, however, these studies do not indicate that participation in vocational education results in an irreversible decision regarding postsecondary attendance, nor that the proportion of vocational students who go on to postsecondary training is essentially zero. According to Campbell, Gardner, and Seitz (1982), "It seems clear . . . that secondary vocational education is not an educational 'dead end'" (p. 25). Furthermore, they also found that "successful secondary experience and aspirations for postsecondary education can more than offset whatever negative effect noncollege prep curriculum may have" (p. 19).

With regard to the relationship between postsecondary participation of vocational students and the type of high school they attend, several of the studies cited above (Meyer 1981;

Campbell, Gardner, and Seitz 1982) suggest that to some extent, participation in postsecondary training is negatively correlated with degree of concentration in the vocational curriculum. In a more recent exploratory study (Campbell, Elliot, Hotchkiss, and Laughlin 1987), the authors report finding "no patterns of association between institutional type and postsecondary attendance" (p. 56). However, they did find that comprehensive school graduates (both vocational and nonvocational) tended to enroll more frequently in postsecondary education than vocational high school graduates. These results augment somewhat the findings reported by Weberg (1984) that comprehensive high school students generally have a higher continuing education rate than students from area vocational schools.

Given the limited scope of this previous research and the fact that it concentrates exclusively on outcome (i.e., actual participation in postsecondary training) rather than the emphasis or intent placed on such an outcome, a number of items were included in the various project instruments that dealt with this second focus. Several of those items were on the principal and counselor questionnaires, one was in the teacher questionnaire, and one was part of the "outcomes" data secured by field observers from published school reports/documents. The analyses of the data secured from these different sources are summarized in figure 26.

The results presented in figure 26 suggest the following:

- Administrators in comprehensive schools rate the goal, "prepare students for further schooling" higher than administrators in both area vocational

INDICATORS (Variables)	RESULTS		
• Ratings by administrators regarding the relative importance (1=very important to 4=not at all important) of the goal--"Prepare students for further schooling--college, junior college, or technical school."	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(1.69)	(104)
	(1) Comprehensive	1.43	53
	(2) Area Vocational	1.91	34
	(3) Vocational Specialty	2.06	17
	COMPARISON: F-School Type=9.73* and MS Error=0.38		
• Approximate number of postsecondary institutions sending representatives to school to talk to students during the 1984-85 school year (1=none, 2=one or two, 3=three to five, 4=six to ten, 5=eleven to twenty, 6=over twenty).	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(4.52)	(103)
	(1) Comprehensive	5.32	53
	(2) Area Vocational	3.61	33
	(3) Vocational Specialty	3.77	17
	COMPARISON: F-School Type=20.42* and MS Error=1.75		
• Ranking by counselors (1 being lowest and 5 being highest) of the goal--"Help students plan and prepare for postsecondary schooling."	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(2.88)	(107)
	(1) Comprehensive	2.98	59
	(2) Area Vocational	2.97	30
	(3) Vocational Specialty	2.39	18
	COMPARISON: F-School Type=1.61 and MS Error=1.62		
• Percentage of time spent by school guidance staff on delivering the service--"Postsecondary education admissions and selection."	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(18.0)	(110)
	(1) Comprehensive	23.1	62
	(2) Area Vocational	13.0	31
	(3) Vocational Specialty	8.4	17
	COMPARISON: F-School Type=11.91* and MS Error=167.4		
• Relative frequency (1=never, 2=infrequently, 3=occasionally, 4=routinely) with which schools' guidance staffs meet with recruiters from postsecondary institutions.	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(3.54)	(112)
	(1) Comprehensive	3.77	61
	(2) Area Vocational	3.26	34
	(3) Vocational Specialty	3.24	17
	COMPARISON: F-School Type=6.66* and MS Error=0.56		
• Counselors' estimates of percentages of students in school year who receive instruction in--"use of educational information resources (e.g., college catalogs, financial aid sources)."	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(46.6)	(106)
	(1) Comprehensive	49.2	59
	(2) Area Vocational	46.2	30
	(3) Vocational Specialty	38.7	17
	COMPARISON: F-School Type=0.98 and MS Erro=738.5		

* Significant at α =.05 level.

Figure 26. Results related to research question 2j–To what extent is the preparation of students for entry into postsecondary institutions emphasized in different secondary schools?

INDICATORS (Variables)	RESULTS

- Counselors' estimates of percentages of students who participate in "visits to 4-year postsecondary institutions" and "visits to 2-year post-secondary institutions."

TYPES OF SCHOOLS	(a) 2-Yr. Institutions $\bar{x}$	n	(b) 4-Yr. Institutions $\bar{x}$	n
(All 3 types--combined)	(19.4)	(104)	(17.8)	(104)
(1) Comprehensive	20.5	59	23.2	61
(2) Area Vocational	21.3	31	11.0	30
(3) Vocational Specialty	10.9	14	8.2	13

COMPARISONS: F(2-yr)-School Type=2.05 and MS Error=293.56
F(4-yr)-School Type=7.37* and MS Error=296.70

- Counselors' estimates of percentages of students who graduated from their schools who "enrolled in a 4-year college or university" or "enrolled in a 2-year college or technical school."

TYPES OF SCHOOLS	(a) 2-Yr. Institutions $\bar{x}$	n	(b) 4-Yr. Institutions $\bar{x}$	n
(All 3 types--combined)	(17.6)	(69)	(25.2)	(69)
(1) Comprehensive	19.0	37	34.7	37
(2) Area Vocational	18.1	23	14.4	23
(3) Vocational Specialty	10.6	9	13.2	9

COMPARISONS: F(2-yr)-School Type=2.41 and MS Error=107.70
F(4-yr)-School Type=14.90* and MS Error=246.19

- Teachers' estimates of the percentages of students they taught over the last 5 years who "enrolled in a 4-year college or university" or "enrolled in a 2-year college or technical school."

TYPES OF SCHOOLS/CLASSES	(a) 2-Yr. Institutions $\bar{x}$	n	(b) 4-Yr. Institutions $\bar{x}$	n
(1) Comprehensive				
(a) Vocational Classes	20.5	232	20.6	222
(b) Nonvocational Classes	13.3	440	23.1	439
(2) Area Vocational				
(a) Vocational Classes	21.3	358	13.8	325
(b) Nonvocational Classes	16.3	59	17.0	58
(3) Vocational Specialty				
(a) Vocational Classes	15.5	133	10.5	112
(b) Nonvocational Classes	10.9	81	14.0	80

COMPARISONS: (2-yr) F-Interaction=0.83, F-Classes=44.26*, and F-Schools=19.47* with MS Error=224.24
(4-yr) F-Interaction=0.17, F-Classes=5.87*, and F-Schools=35.42* with MS Error=378.11

- Percentages of students reported by schools as being enrolled in "Voc/Tech schools and 2-year colleges" and "4-year colleges/universities."

TYPES OF SCHOOLS	(a) 2-Yr. Institutions $\bar{x}$	n	(b) 4-Yr. Institutions $\bar{x}$	n
(All 3 types--combined)	(11.7)	(52)	(25.2)	(51)
(1) Comprehensive	11.3	29	33.2	29
(2) Area Vocational	13.4	13	12.1	12
(3) Vocational Specialty	10.6	10	17.4	10

COMPARISONS: F(2-yr)-School Type=0.65 and MS Error=39.97
F(4-yr)-School Type=10.17* and MS Error=223.60

* Significant at α=.05 level.

Figure 26--*Continued*

INDICATORS (Variables)	RESULTS		
• Counselors' reports of relative emphasis placed upon helping students in the transition from secondary to postsecondary schools in their guidance programs (1=none, 2=very little, 3=some and 4=a lot).	TYPES OF SCHOOLS	$\bar{x}$	n
	(All 3 types--combined)	(9.6)	(47)
	(1) Comprehensive	10.1	28
	(2) Area Vocational	10.8	10
	(3) Vocational Specialty	6.7	9
	COMPARISON: F-School Type=0.92 and MS Error=53.96		

* Significant at $\alpha = .05$ level

Figure 26--*Continued*

and vocational specialty schools. (However, this does not mean that administrators in those school rated the goal low--they rated it as "important").

- Significantly more postsecondary institutions send representatives to comprehensive schools than to area vocational and vocational specialty schools.

- Counselors across all three types of schools ranked the goal "helping students plan and prepare for postsecondary schooling" similarly and reported placing about equal emphasis on helping students in the secondary-postsecondary transition.

- Counselors in comprehensive schools reported spending a significantly larger percentage of their time on issues related to postsecondary admissions and selection than did the counselors in the two other types of schools.

- Counselors in comprehensive schools report meeting more often with postsecondary recruiters than do counselors in area vocational and vocational specialty schools.

- No differences were observed across school types in the percentages of students receiving instruction in the "use of educational information resources."

- No differences were observed by counselors across the three types of schools in relation to either the percentages of their students who made visits to 2-year postsecondary institutions or the percentages who attended such institutions. However, when it came to 4-year institutions, a significantly larger percentage of the students in comprehensive schools were reported to have participated in such visits and to have attended such institutions than students from area vocational and vocational specialty schools.

- Vocational teachers (as well as nonvocational teachers) in comprehensive and area vocational schools indicated that a larger percentage of their students attend 2-year postsecondary institutions than do teachers in vocational specialty schools. In addition, the vocational teachers across all three types of schools reported that a larger percentage of their students attend 2-year postsecondary institutions than the percentage reported by nonvocational teachers.

- With regard to 4-year postsecondary institutions, the percentage attendance for comprehensive school students that was reported was significantly greater than the comparable attendance estimate reported for students in both area vocational and vocational specialty schools. Also, the attendance estimate reported for nonvocational students was significantly greater than that reported for vocational students.

- School reports showed that a significantly greater percentage of students from comprehensive schools attended 4-year institutions than those from area vocational and vocational specialty schools. At thesame time, no significant differences were observed across school types in relation to attendance at 2-year institutions.

Generally, these results are in agreement with the findings obtained in previous research (e.g., Alexander, Cook, and McDill 1978; Grasso and Shea 1979; Gelb 1979; Meyer 1981; Campbell, Gardner, and Seitz 1982; and Weberg 1984). That is, participation in postsecondary education is positively (and significantly) correlated with participation in the college preparatory curriculum--which is typically offered in only one of the three types of schools studied, comprehensive schools. This strong association between school type and curricular offerings would help account for the various differences by school types observed in the current data--differences indicating that greater emphasis is placed on participation in postsecondary education, preparing for that step, and actually participating in such schooling in comprehensive schools than in area vocational and vocational specialty schools.

Despite this general trend favoring the comprehensive schools, the indicated results do not demonstrate that participation in secondary vocational education represents an

educational "dead end", which is in agreement with the findings described by Campbell, Gardner, and Seitz (1982). Although postsecondary attendance is emphasized more in comprehensive schools than in area vocational and vocational specialty schools, concern with such an outcome is not ignored and is viewed as a fairly prominent goal in the latter types of institutions as well. For example, the goal "preparation of students for further schooling" is rated "important" by the principals in vocational schools, and no significant differences were observed between school types in relation to several other indicators of the relative emphasis placed on such a goal. In addition, the percentage of secondary vocational students who go on to postsecondary training appears to be significantly different from zero. For example, the postsecondary attendance data secured from vocational teachers suggest that between 17 percent and 23 percent of their students attend 2-year postsecondary schools and between 12 percent and 18 percent attend 4-year institutions. Although these estimates are about the same for 2-year institutions and significantly lower for 4-year institutions than those noted by nonvocational teachers for their students (i.e., 10 percent to 16 percent and 18 percent to 24 percent, respectively), they are clearly not equal to zero.

Unlike the results of the recent study by Campbell et al. (1987), which yielded no "patterns of association between institution type and postsecondary attendance" (p. 56), the current data suggest that participation in 2-year programs is not significantly associated with secondary school type, but that

participation in a 4-year program and attendance at such institutions is. In the latter instance, significantly more students from comprehensive schools attend 4-year postsecondary institutions than do students from either area vocational or vocational specialty schools. Furthermore, (although no significant effects were noted), it appears that postsecondary participation levels of students in area vocational schools are somewhat greater than those of students in vocational specialty schools. These two tendencies in the current results suggest that (1) there are patterns of association between secondary school type and postsecondary attendance and (2) those patterns differ, depending on whether one is dealing with 2-year or 4-year postsecondary institutions.

To What Degree Do Articulation Linkages Exist between Vocational Programs at the Secondary and Postsecondary Levels? (Question 2k)

Articulation, the coordination of secondary and postsecondary programs, is advantageous to both students and education institutions. Students are frequently able to save time and money. Schools benefit in several ways: revised and updated curricula translate into better programs, which, in turn, attract more and better students (Warmbrod and Long 1986).

Developing articulation agreements requires careful, thoughtful planning. According to Wilcox and Pautler, Jr., (1983), admissions policies and procedures, curriculum development, student personnel services, faculty sharing and development, facilities and equipment sharing, research and

planning, and advisory councils are all factors that must be considered when developing an articulation agreement.

The type of articulation program most suitable to the specific situation must also be determined. Long, Warmbrod, Faddis, and Lerner (1986) identify two major forms articulation programs can take: time-shortened (also known as advanced placement) programs and advanced skills programs (technical preparation and "2 + 2" programs are both forms of advanced skills programs). For the purposes of this discussion, the two forms of advanced skills programs will be dealt with separately.

In advanced placement (time-shortened) programs, postsecondary credits are awarded for work done at the secondary level (Warmbrod and Long 1986). Determination of award can be based on any number of factors, such as competency testing, signature of instructor, or successful completion of higher level postsecondary courses. The advanced placement or time-shortened program is the most common articulation model (Long, Warmbrod, Faddis, and Lerner 1986).

Technical preparation programs are advanced skill programs (also known as core curriculum programs), that result in students taking courses that have been determined to be appropriate to build a strong foundation for postsecondary courses. "Postsecondary institutions then revise their curricula to fit this strong foundation" (Warmbrod and Long 1986).

The second type of advanced skills program, (the "2 + 2" articulation programs) "take a total view of preparing for an

occupation from grades 11-14. A "2 + 2" program is seen as a 4-year curriculum with exit points along the way" (Warmbrod and Long 1986, p. 29). This type of articulation program potentially requires the most change of any of the articulation program models.

Given the current emphasis on strengthening the linkages between vocational programs at the secondary and postsecondary levels through the kinds of programs outlined above, several items were included in the project instruments that dealt with describing the relative frequency with which such linkages were reported by different secondary school personnel. Three such items were contained in the principals' questionnaire and one was included in each of the interviews (counselor, principal, and teacher). The results obtained using these different items are summarized in figure 27.

The results found in figure 27 indicate the following:

- A considerable percentage of the schools studied (about 58 percent ± 9 percent) reported having arrangements with postsecondary institutions that allowed credits earned in high school to be used toward a postsecondary degree requirement. Furthermore, these arrangements seemed to be about equally prevalent across all three types of schools studied.

- More principals in comprehensive and vocational specialty schools than in area vocational schools report having students who take courses at postsecondary institutions.

- About equal proportions of the three types of schools studied report providing facilities or teachers for postsecondary courses. Approximately 36 percent (± 11 percent) of the schools reported providing such services.

INDICATORS (Variables)	RESULTS		
• Proportion of schools that have an arrangement with a postsecondary institution that allow certain credits earned at that school to count toward a postsecondary degree requirement.	TYPES OF SCHOOLS	$\hat{p}$	n
	(All 3 types--combined)	(.58)	(105)
	(1) Comprehensive	.50	52
	(2) Area Vocational	.67	36
	(3) Vocational Specialty	.65	17
	COMPARISON: χ^2=1.94		
• Proportion of schools that report having students who attend a postsecondary institution (i.e., take courses there).	TYPES OF SCHOOLS	$\hat{p}$	n
	(All 3 types--combined)	(.60)	(103)
	(1) Comprehensive	.69	52
	(2) Area Vocational	.38	34
	(3) Vocational Specialty	.77	17
	COMPARISON: χ^2=8.63*		
• Proportion of schools that provide facilities or teachers for "postsecondary courses leading to a degree."	TYPES OF SCHOOLS	$\hat{p}$	n
	(All 3 types--combined)	(.36)	(69)
	(1) Comprehensive	.27	30
	(2) Area Vocational	.39	28
	(3) Vocational Specialty	.55	11
	COMPARISON: χ^2=1.73		
• Proportion of school administrators who report having continuing, direct contacts (other than as a student) with the postsecondary institution(s) serving their community.	TYPES OF SCHOOLS	$\hat{p}$	n
	(All 3 types--combined)	(.80)	(117)
	(1) Comprehensive	.80	60
	(2) Area Vocational	.76	38
	(3) Vocational Specialty	.90	19
	COMPARISON: χ^2=0.69		
	THREE MOST FREQUENT TYPES OF CONTACTS NOTED:		
	(a) Meetings to improve articulation linkages		
	(b) Teach a course		
	(c) Advisory board/accreditation team involvement		
• Proportion of school counselors who report having continuing direct contacts (other than as a student) with postsecondary institution(s) serving their community.	TYPES OF SCHOOLS	$\hat{p}$	n
	(All 3 types--combined)	(.91)	(116)
	(1) Comprehensive	.95	62
	(2) Area Vocational	.91	35
	(3) Vocational Specialty	.79	19
	COMPARISON: χ^2=3.10		
	THREE MOST FREQUENT TYPES OF CONTACTS NOTED:		
	(a) Postsecondary personnel come to talk to students		
	(b) Go to college fairs or college nights		
	(c) Financial aid information		

* Significant at α = .05 level.

Figure 27. Results related to research question 2k--To what degree do articulation linkages exist between programs at the secondary and postsecondary levels?

INDICATORS (Variables)	RESULTS			
• Proportion of teachers who report having continuing direct contacts (other than as a student) with postsecondary institution(s) serving their community.	TYPES OF TEACHERS	TYPES OF SCHOOLS	$\hat{\beta}$	n
	(a) Vocational	(1) Comprehensive	.48	331
		(2) Area Vocational	.54	202
		(3) Vocational Specialty	.38	99
	(b) Nonvocational	(1) Comprehensive	.20	118
		(2) Area Vocational	.23	62
		(3) Vocational Specialty	.18	38
	(All 6 types of teacher-school combinations)		(.41)	(850)

COMPARISONS: χ^2(teacher type)=51.0*, χ^2(SCHOOL type)=6.62*
(Note: $\hat{\beta}_a$=.48 and $\hat{\beta}_b$=.21) (Note: $\hat{\beta}_1$=.41, $\hat{\beta}_2$=.47, and $\hat{p}_3$=.32)

FIVE MOST FREQUENT TYPES OF CONTACTS NOTED:
(a) Teach a course
(b) Student placement
(c) Postsecondary school personnel come to talk to students
(d) (No details)
(e) Articulation committee meetings

*Significant at α=.05 level.

Figure 27--*Continued*

- Approximately 80 percent (± 7 percent) of the cooperating principals across all three types of schools reported that they have direct contacts with the postsecondary institutions in their areas. Those contacts typically involve teaching courses in such institutions, participating in meetings to improve articulation linkages, and participation on advisory boards or accreditation teams.

- About equal proportions of the counselors from the three types of schools studied report having continuing, direct contacts with the postsecondary institutions in their areas. Approximately 91 percent (± 5 percent) of the counselors reported such linkages, which typically involved having personnel from the postsecondary institution come to talk to students, involvement in college fairs or college nights, and securing financial aid information.

- With regard to the teachers in the different types of schools considered, it appears that those in comprehensive and area vocational schools have more contacts with postsecondary institutions than the teachers in vocational specialty schools. In addition, and perhaps more surprising, the vocational teachers (48 percent ± 4 percent) report having significantly more contacts than do the nonvocational teachers (21 percent ± 5 percent). Generally these teacher contacts involve teaching courses, the placement of students, personnel from the postsecondary institutions coming to talk to students, participating in articulation committee meeting, and "other" activities.

Generally speaking, these results suggest that there appears to be quite a bit of interaction and (formal) articulation occurring in over 50 percent of the schools studied and 40 percent or more of the different respondent groups. Perhaps the most interesting finding is that vocational teachers report having significantly more continuing contacts with personnel from postsecondary institutions than do nonvocational teachers. There appear to be no systematic differences across types of schools in

regard to the frequency or nature of the interactions or articulation linkages reported.

Given the general nature of the available data, it was not possible to describe clearly and study the specific types of articulation arrangements existent across the sampled schools. Nor was it possible to assess the quality of those linkages or agreements. Clearly, these two issues represent potential topics for further, more extended research.

What Kinds of Inputs Are Solicited from Business/Industry and Labor Representatives and How Are They Used to Improve Secondary Vocational Programs? (Question 21)

In requiring schools to work with vocational advisory and craft committees, legislators have regularly acknowledged that communication between the world of education and the world of work benefits industry, students, instructors, and education institutions in important ways. Industry benefits from having an available pool of appropriately trained workers and receiving assistance from vocational educators in designing and implementing employee training programs. Students benefit because training is more current, work experience is available to link theory to practice, and job opportunities are more readily available. Instructors benefit from the contact with current practices in business/industry and are more likely to receive support from the business/industry community in the form of resources. Education institutions also benefit as instructional programs are improved as a result of better information (Franchak, Desy, and Norton 1984).

Wilson (1980) suggests three major areas that are appropriate for input by business, industry, and labor: (1) human resource needs and articulation issues, (2) update of instructors, and (3) substantive issues. The authors of Handbook for Advisory Committees in Occupational Education (n.d.) state that business, industry, and labor input is useful in the following areas:

- Recruiting and selecting students, placing students, and conducting follow-up
- Advising on curriculum, resource materials, facilities, adult education classes, cooperative education programs, and safety
- Assisting in the establishment of criteria for teacher selection and arranging summer employment so teachers can update their skills
- Facilitating public relations and being publicly supportive of vocational education
- Assisting in recruiting, selecting, and evaluating instructors

Franchak, Desy, and Norton (1984), citing several sources, compiled a list of the type of inputs schools normally solicit from business, industry, and labor. That list includes public relations, curriculum advice, funding support of the program, support of legislation, program evaluation, recommendations for change, textbook reviews, encouragement of individual teachers, placement selection criteria, job market analysis and planning. To determine employers' perceptions of the types of inputs contributed by business, industry, and labor, Hollenbeck (1987) surveyed employers in South Dakota regarding their interactions with secondary and postsecondary vocational education. The

overall responses they provided during that survey were as follows:

- Participated in cooperative work experience--59.9 percent
- Been contacted by a school regarding curriculum decision--25.5 percent
- Served as an instructor or donated equipment--26.9 percent
- Other forms of interaction--32.2 percent

Given the importance and mutual benefits that generally accrue from strong business/industry linkages with the vocational education system, a number of items were included in the survey instruments that would help provide a national picture of the nature of the linkages that currently exist in the field. Eight of those items were part of the teacher questionnaire, and one was included in the principal questionnaire. The results obtained via the data secured using those different items are summarized in figure 28.

The results found in figure 28 indicate the following:

- Teachers (vocational and nonvocational alike) in comprehensive schools reported spending significantly less time meeting with advisory committees to deal with curriculum-related issues than did the teachers in area vocational and vocational specialty schools.
- Vocational (and nonvocational) teachers in comprehensive schools reported spending significantly less time than teachers in area vocational and vocational specialty schools outside their classes contacting employers and visiting students at work sites.
- There appear to be no major differences across the three types of schools in terms of their staffs' finding employers who are willing to provide work stations.

INDICATORS (Variables)	RESULTS

- Teachers' reports of the numbers of hours they spend meeting with advisory committees (business/industry representatives) per month to deal with curriculum-related issues.

	TYPES OF CLASSES				
	(1) Vocational		(2) Nonvocational		
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	COMPARISONS
- Comprehensive	1.68	458	1.26	734	F-Interaction=0.34,
- Area Vocational	1.96	565	1.51	81	F-Classes=496.5*, and
- Vocational Specialty	2.00	249	1.46	109	F-Schools=171.1*, with MS Error=0.34

- Teachers' reports of the numbers of hours they spend per week outside class contacting employers on students' behalfs and visiting students at worksites.

	TYPES OF CLASSES				
	(1) Vocational		(2) Nonvocational		
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	COMPARISONS
- Comprehensive	1.72	457	1.09	731	F-Interaction=0.12,
- Area Vocational	1.85	566	1.24	83	F-Classes=365.4*, and
- Vocational Specialty	1.81	256	1.14	114	F-Schools=62.7*, with MS Error=0.69

- Proportion of vocational teachers who report that their schools' staffs find "employers who are willing to provide work stations where students can engage in career exploration activities."

	STATISTICS		
TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISONS
- Comprehensive	.77	224	
- Area Vocational	.69	363	χ^2=3.66
- Vocational Specialty	.64	207	
(All 3 types combined)	(.70)	(794)	

- Vocational teachers' reports or the extent to which (a or b) is used to determine the goals, content, and operations of their vocational programs.

	TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISONS
(a) Technical Advisory group or committee	-Comprehensive	3.22	367	F-School Type=
	-Area Vocational	4.02	531	67.2* and
	-Vocational Specialty	4.09	233	MS Error=1.24
	(All 3 types combined)	(3.77)	(1131)	
(b) Surveys of local employers	-Comprehensive	3.10	373	F-School Type=
	-Area Vocational	3.58	535	19.44* and
	-Vocational Specialty	3.62	231	MS Error=1.58
	(All 3 types combined)	(3.43)	(1139)	

- Vocational teachers' reports of the value of equipment/supplies **donated** over last 3 years by local businesses.

	STATISTICS		
TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISONS
- Comprehensive	1.68	370	F-School Type=30.14*
- Area Vocational	2.33	543	and MS Error=1.71
- Vocational Specialty	2.30	239	
(All 3 types combined)	(2.11)	(1152)	

* Significant at α=.05 level.

Figure 28. Results related to research question 2I–What kinds of inputs are solicited from business/industry and labor representatives and how are they used to improve secondary vocational programs?

INDICATORS (Variables)	RESULTS						
• Vocational teacher's reports of the relative influence of business/industry and labor representatives on each of the following aspects of their vocational programs:	STATISTICS BY SCHOOL TYPES:						
	(1) Comprehensive		(2) Area Vocational		(3) Vocational Specialty		
Program Concerns	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	COMPARISONS
(a) Determining curriculum goals and objectives	2.73	376	3.50	561	3.47	247	F-School Type=42.02* and MS Error=1.77
(b) Determining curriculum content and operations	2.65	377	3.38	561	2.24	247	F-School Type=37.90* and MS Error=1.66
(c) Assessing relevance and currentness of curriculum	2.75	377	3.58	558	3.53	244	F-School Type=53.06* and MS Error=1.61
(d) Recommending programs to be offered or deleted	2.53	376	3.28	555	3.22	244	F-School Type=38.30* and MS Error=1.78
(e) Providing/Developing learning or training sites (e.g., co-op)	2.81	376	2.86	557	2.91	241	F-School Type=0.32* and MS Error=2.22
(f) Identifying change needed in training due to technilogical advances	2.94	378	3.71	555	3.76	244	F-School Type=49.34* and MS Error=1.59
(g) Recommending equipment and supplies	2.76	376	3.72	555	3.62	243	F-School Type=64.40* and MS Error=1.74
(h) Providing equipment and supplies	1.75	377	2.18	556	2.12	243	F-School Type=14.57* and MS Error=1.51
(i) Affirmative action concerns	2.05	367	2.22	537	2.12	238	F-School Type=2.00 and MS Error=1.51

• Teachers' reports regarding their schools' systematically conducting interviews of employers to determine their satisfaction with employees who were former vocational students.	TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
	- Comprehensive	2.26	367	F-School Type=7.82* and MS Error=1.47
	- Area Vocational	2.56	547	
	- Vocational Specialty	2.56	241	
	(All 3 types combined)	(2.47)	(1155)	

* Significant at α=.05 level.

Figure 28--*Continued*

INDICATORS (Variables)	RESULTS

- Teachers' reports of how employers who supervise the work experiences of co-op students influence the grades those students receive.

STATISTICS BY SCHOOL TYPES:

TYPES OF INFLUENCES	(1) Comprehensive β	(1) Comprehensive n	(2) Area Vocational β	(2) Area Vocational n	(3) Vocational Specialty β	(3) Vocational Specialty n
- No, program has no co-op segment	.41		.44		.40	
- No	.13		.11		.13	
- Yes, **recommend** grades	.21	357	.19	525	.19	233
- Yes, **assign** grades	.08		.08		.09	
- Yes, **jointly determine and assign** grades	.17		.18		.19	

COMPARISON: χ^2=2.20

- Principals' reports of the relative influence of business and industry representatives on--

STATISTICS BY SCHOOL TYPES:

	(1) Comprehensive $\bar{x}$	(1) Comprehensive n	(2) Area Vocational $\bar{x}$	(2) Area Vocational n	(3) Vocational Specialty $\bar{x}$	(3) Vocational Specialty n	COMPARISONS
Program Concerns							
(a) Establishing the schools' (inservice) curriculum	2.04	53	2.94	36	3.47	17	F-School Type=31.10* and MS Error=0.54
(b) Determining instructional approach used in delivering inservice training	1.77	53	2.39	36	2.82	17	F-School Type=13.83* and MS Error=0.62

* Significant at α=.05 level.

Figure 28--*Continued*

- The vocational teachers in area vocational and vocational specialty schools reported that they use inputs from both technical advisory groups and employer surveys (for determining the content, focus, and operations of their programs) significantly more often than did the vocational teachers in comprehensive schools.

- According to vocational teachers in comprehensive schools, the value of equipment/supplies donated by local businesses to their programs is significantly less than the value reported by the vocational teachers in the other two types of schools.

- Of nine program concerns listed, the vocational teachers in comprehensive schools indicated that business/industry representatives exerted less influence on seven of those concerns than did the teachers in area vocational and vocational specialty schools. On the two other concerns (providing learning sites and helping to address affirmative action concerns), no differences were observed across teachers in the three types of schools considered.

- The teachers in area vocational and vocational specialty schools reported conducting employer interviews regarding vocational graduates more frequently than did the teachers in comprehensive schools.

- No differences were found across school types in regard to the ways in which employers affect COOP students' grades. Typically, they recommend grades or are actively involved with the coordinator in determining grades.

- Principals in comprehensive schools reported that business/industry representatives have less influence on the establishment and delivery of their schools' inservice program than did the principals in area vocational and vocational specialty schools.

Overall, the reported results suggest that vocational personnel routinely involve business/industry representatives in a variety of ways in the delineation, implementation, and evaluation of their respective programs. Generally, the level of that involvement is relatively low (e.g., "1-4 hours per week" vs.

"over 20 hours"; "0 + -5 hours per month" vs. "Over 10 hours"; or "median/moderate/some influence" vs. "considerable influence"). However, since no baseline data exist with which to compare the level of involvement indicated, it is not possible to judge how adequate that level is with regard to achieving the program-related results needed. It can only be said that such representatives appear to be consistently consulted regarding a fairly wide array of program-related issues.

Another trend in the data relates to school type. More specifically, the results generally suggest that vocational personnel in comprehensive schools significantly less frequently involve business/industry representatives than do the vocational personnel in area vocational and vocational specialty schools. Such a finding may be due, at least in part, to differences in the kinds of vocational programs offered in comprehensive versus the two other types of schools. As indicated earlier, many of the vocational courses offered in comprehensive schools fall in the industrial arts and consumer/homemaker education areas, which are primarily "career exploration" courses and involve more basic (enduring) principles, concepts, and skills than do "job specific training" courses. Hence, the frequency with which such courses need to be "updated" (e.g., through the solicitation of ideas and recommendations from industry/business personnel as well as others) to ensure that they reflect "state-of-the-art" practices and skills may be less than that appropriate for "job specific training" courses. Furthermore, few, if any, industrial arts and consumer/homemaker education courses are offered in area

vocational and vocational specialty schools--in those schools significantly more emphasis appears to be placed on "job specific training" programs. This discrepancy in course offerings, and their related needs regarding updating, may account for a fairly large proportion of the variation noted across school types.

At the same time, the current results generally agree with the findings in several earlier studies that the linkages with business/industry in comprehensive schools are not as strong as those found for the two other types of schools (Peterson and Rabe 1981; Evans 1982; Benson and Hoachlander 1982; Campbell et al. 1987). However, unlike those earlier studies the current data do not unequivocally support the conclusion that the reduced incidence of business/industry linkages noted for comprehensive schools necessarily represents a negative attribute of such institutions. As pointed out earlier, this difference could possibly reflect major differences in course offerings and instructional emphases across institutions rather than a rationale for arguing that the vocational offerings in comprehensive schools are poorer than those in area vocational and vocational specialty schools.

Is Anything Being Done in Different Types of Schools That Offer Vocational Programs to Identify, Track, and Address the Unique Needs of Dropout-Prone and Out-of-School Youth? (Question 3a)

One of the "messages" that comes across very clearly in the Perkins Act is the emphasis on improved access to and quality of vocational program offerings for students from populations with special needs. Overall, under the Perkins Act, 57 percent of the

total funds available are set aside for special needs initiatives in the following manner:

- Twenty-two percent for disadvantaged
- One percent for adults in need of training or retraining
- Ten percent for "handicapped"
- Eight and one half percent of single parents
- Three and one half percent for sex equity
- One percent for incarcerated

This general focus was addressed, albeit to a limited extent, by the questions raised in relation to the third project objective, which are considered in this and the five following subsections.

The dropout problem, which directly involves most, if not all, of the special needs populations cited in the Perkins Act, is one of the most critical and pervasive problems facing our educational system today. At present, the dropout rate from inner-city schools is estimated to be somewhere between 40 and 50 percent. Nationally, the rate probably averages 25 percent (Wehlage and Rutter 1986). Why do students drop out?

> There is a clear trend in what students say [about why they are dropping out]. They leave because they do not have much success in school and they do not like it. Many of them choose to accept entry-level work or to care for their children, choices that apparently are seen as more attractive than staying in school. (Wehlage and Rutter 1986, p. 376)

A number of studies have enumerated characteristics of dropouts. They include poor academic performance, low socioeconomic backgrounds, and school disciplinary problems (Weber and Mertens 1987; Wehlage and Rutter 1986; and Ekstrom et al. 1986). Various

other characteristics are also mentioned, but these three characteristics are commonly agreed upon.

Wehlage and Rutter (1986) lay the responsibility for curtailing the dropout problem directly on the public schools. "Certainly public schooling in a democratic society is obligated to respond constructively to children from all backgrounds and social conditions" (p. 381).

Public education institutions have attempted to respond to the needs of dropout-prone youth by creating special programs designed to meet the perceived needs of this portion of the secondary-school population. Hamilton (1986) lists the characteristics of special programs for dropout-prone students as including a strong vocational emphasis with applied academics, a learning component outside the classroom, small class size, low student-to-teacher ratio, and individualized instruction. Weber (1986) presents a more detailed listing of dropout-prevention program characteristics. Briefly, this list includes the following elements:

- Programs are designed to be delivered in a different context than traditional classes.
- Programs have a low teacher to student ratio.
- Programs function more autonomously than "regular" programs.
- Programs commonly combine remedial basic skills instruction, parental involvement, work experience or job placement, counseling, supportive services, and in-school vocational instruction.
- Programs focus on students who are starting high school.

- Teachers are especially committed to the program and the students.
- Fifty percent of the time in the program is spent on the education and remediation needs of the students, 25 percent is spent on developing students' positive feelings of self-worth, and 25 percent is spent on students' work-related needs.
- Programs include motivational strategies.

What happens when dropout prevention programs don't work and students leave school before graduation? In Chicago, where the dropout rate is 43 percent, city taxpayers spend "$12.49 for every $1.00 of additional resources needed to address the problem" (Weber 1986, p. 1). Additionally, over the lifetime of each dropout, Chicago loses $25,550 in tax revenues, expends $3,950 in welfare and income maintenance, and expends $5,750 on crime and related costs.

Therefore, not only are dropout prevention programs necessary, but for those whom even these efforts fail, programs must be devised to attract dropouts back into a learning environment that can offer them the opportunity to earn their high school diplomas.

Given the pervasiveness and criticality of the dropout problem both at present and in the foreseeable future, a number of items were included in the survey instruments that dealt with that concern. The primary aspect of the problem upon which many of these items focused was the extent to which the dropout issue is being addressed across various schools that offer vocational education programs and the general nature of the initiatives that are being implemented by those institutions. The specific items related to these foci were included in the teacher, counselor, and

principal questionnaires as well as the principal interviews. The results obtained through these items are summarized in figure 29.

The results shown in figure 29 suggest the following:

- The teachers in vocational specialty schools deal with a significantly larger proportion of dropouts who have returned to school than do teachers in either area vocational or comprehensive schools.

- Of the designated set of services that may help in dropout prevention and are available to their students, vocational teachers report the following:

  1. Remedial programs are available in most of the sampled schools (i.e., over 80 percent) and generally they are found more often in vocational specialty than in the other two types of schools;

  2. Parental awareness programs are found in about half the schools and are found slightly (though not significantly) more often in comprehensive and vocational specialty schools than in area vocational schools;

  3. Life skills instruction is provided significantly less often in area vocational schools than in the other two types of schools;

  4. Intensive counseling is provided in about 2/3 of the schools, but is provided significantly less frequently in area vocational schools than vocational specialty schools, with the comprehensive schools falling between these two extremes;

  5. Tutorial assistance is offered in about 2/3 of the schools surveyed; and

  6. Referral services are offered in most of the schools (i.e., 80 percent), but are offered significantly less often in area vocational schools than in the two other types of schools.

- Teachers (both vocational and nonvocational) in all three types of schools reported receiving roughly the same amount of inservice training related to "teaching disadvantaged and dropout-prone students." Overall, they reported completing relatively little

INDICATORS (Variables)	RESULTS

- Vocational teachers' reports of the percentages of students in their programs who are dropouts who have returned to school.

TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISON
- Comprehensive	2.51	513	F-School Type=26.84*
- Area Vocational	3.41	569	and MS Error=176.61
- Vocational Specialty	9.71	252	
(All 3 Types Combined)	(4.25)	(1334)	

- Proportions of vocational teachers who report that the designated services (most of which are deemed important in dropout prevention) are available to their students:

TYPES OF SERVICES:	TYPES OF SCHOOLS: (1) Comprehensive $\hat{p}$	n	(2) Area Voc. $\hat{p}$	n	(3) Voc. Specialty $\hat{p}$	n	COMPARISONS
(a) Remediation-Reading	.83	382	.80	560	.86	249	χ^2=5.71
(b) Remediation-Math	.82	381	.81	559	.92	247	χ^2=16.04*
(c) Parental Awareness	.58	377	.52	548	.58	232	χ^2=4.90
(d) Life Skills Instr.	.65	372	.40	543	.61	236	χ^2=67.29*
(e) Intensive Counseling	.71	377	.68	556	.79	239	χ^2=10.99*
(f) Tutorial Assistance	.71	380	.68	556	.71	241	χ^2=1.30
(g) Referral Services	.91	383	.83	550	.91	241	χ^2=18.11*

- Teachers' reports of the hours of noncollege inservice programs they have completed in the area "Teaching disadvantaged and dropout-prone students."

TYPES OF SCHOOLS	TYPES OF CLASSES: (1) Vocational $\bar{x}$	n	(2) Nonvocational $\bar{x}$	n	Both Types Combined $\bar{x}$	n
- Comprehensive	1.65	454	1.58	727	1.61	1181
- Area Vocational	1.57	564	1.82	81	1.60	645
- Vocational Specialty	1.56	250	1.60	116	1.58	366
(All 3 Types Combined)	(1.60)	(1268)	(1.60)	(924)	(1.60)	(2192)

COMPARISON: F-Interaction=2.88, F-School Type=0.11 and MS Error=1.05

- Counselors' reports regarding the hours they spend during an average week--

	TYPES OF SCHOOLS	STATISTICS: $\bar{x}$	n	COMPARISONS
-"counseling and working with students who are potential dropouts."	- Comprehensive	2.39	62	F-School
	- Area Vocational	2.30	33	Type=0.75 and
	- Vocational Specialty	2.61	18	MS Error=0.74
-"counseling and working with students who have dropped out and want to or have returned to school."	- Comprehensive	1.43	61	F-School
	- Area Vocational	1.73	33	Type=5.68* and
	- Vocational Specialty	2.06	18	MS Error=0.54

*Significant at α=.05 level.

Figure 29. Results related to research question 3a–Is anything being done in different types of schools that offer vocational programs to identify, track, and address the unique needs of dropout-prone and out-of-school youth?

INDICATORS (Variables)	RESULTS			
• Proportion of counselors who report that their schools have a plan or procedures in place for identifying and working with dropout-prone students.		STATISTICS:		
	TYPES OF SCHOOLS	β	n	COMPARISON
	- Comprehensive	.52	62	χ^2=0.92
	- Area Vocational	.55	33	
	- Vocational Specialty	.65	17	
	(All 3 Types Combined)	(.55)	(112)	
• Proportion of school principals who report that their schools provide facilities or teachers for students who are studying for a GED.		STATISTICS:		
	TYPES OF SCHOOLS	β	n	COMPARISON
	- Comprehensive	.57	54	χ^2=7.08*
	- Area Vocational	.81	36	
	- Vocational Specialty	.82	17	
	(All 3 Types Combined)	(.69)	(107)	
• Proportion of school principals who report that their schools have special programs in place for identifying and working with either dropout-prone, actual dropouts, or both.		STATISTICS:		
	TYPES OF SCHOOLS	β	n	COMPARISON
	- Comprehensive	.62	60	χ^2=3.76
	- Area Vocational	.45	38	
	- Vocational Specialty	.42	19	
	(All 3 Types Combined)	(.53)	(117)	

* Significant at α =.05 level.

Figure 29--*Continued*

(i.e., midway between "none" and "1-3" hours of) such training.

- The counselors across all three types of schools studied reported spending about 3-4 hours per week counseling/working with potential dropouts and about 1 hour per week working with students who have actually dropped out and either want to or have returned to school. In addition, the counselors in vocational specialty schools reported spending more hours (i.e., about 1 hour per week more) than their peers in the other two types of schools working with dropouts and potential dropouts.

- Approximately 55 percent of the counselors across the three types of schools studied reported that their schools have in place plans or procedures for identifying and working with dropout-prone students.

- Significantly more principals in area vocational and vocational specialty than in comprehensive schools reported that they provide facilities or teachers for students (often dropouts) who are studying for a GED.

- About 55 percent of the principals across the three types of schools considered reported having special programs in place for identifying and working with dropout-prone students and/or actual dropouts.

Generally, it would appear that the majority of the schools studied either have programs in place and/or some of the elements of prevention/recovery programs in place for dealing with both potential and actual dropouts. When one considers the pervasiveness and urgency of the dropout problem, however, it appears that many of these efforts are not as explicit, wholistic, or prominent as may be needed. For example, given its pervasiveness, it is unlikely that the dropout problem has bypassed almost half (45 percent) of the schools studied; and yet, that is the percentage of both counselors and principals who did not indicate that they have prevention/recovery programs in place.

Furthermore, both the amount of inservice training reported by teachers (vocational and nonvocational) and the amount of time reported by counselors as being spent working on dropout-related issues would seem to be woefully inadequate. The available research suggests that much more focused (rather than coincidental) effort needs to be expended if the problem is to be slowed, let alone alleviated.

A somewhat more specific, though less-obvious issue that seems to be present in the data concerns the availability and breadth of services (particularly counselor-related services) and programs related to dropout prevention/recovery offered in area vocational schools. The results seem to suggest that the problem is important in such schools, but that it is not being addressed as fully or programmatically as in the two other types of the schools. Although this perception may be due to the fact that many of the kinds of services/programs considered are the joint responsibility of both the area school and its associated "feeder" schools, it is critical that such joint responsibilities be clearly articulated and executed to insure that they are not lost "between the cracks."

How Much Time Do Vocational Teachers Devote to the Preparation of Alternative Activities and Materials to Better Meet the Needs of At-Risk Students? (Question 3b)

The federal government has long recognized the needs of various groups of students who are at risk. The Carl D. Perkins Act, for example, designates 22 percent of its funds to be used for disadvantaged (including limited English proficient), 10

percent for "handicapped," and 8.5 percent for single parents (U.S. Congress 1984).

The term "at-risk," as used in this report, includes students with physical, mental, or learning disabilities; economic or academic disadvantages; or who, for whatever reason are dropout prone. Vocational education is appropriate for any of these individuals who indicate an interest.

If vocational programs are to be of real benefit to at-risk students, standards of performance must be maintained by teachers and met by all participating students. Sarkees and Scott (1985) recommend that, "rather than lowering program standards for these students, vocational teachers need to exercise flexibility in planning and implementing instruction" (p. 251). In other words, Sarkees and Scott call for teachers to modify their curriculum and related instructional strategies to meet the individual needs of each at-risk student. When undertaking such modifications the teacher must consider an array of instructional elements/concerns, such as--

- establishing realistic goals,
- establishing a favorable learning environment,
- matching learning styles with teaching styles,
- establishing readability levels for materials used in the program,
- selecting appropriate instructional materials, and
- modifying existing materials.

Given the emphasis in the Perkins Act on improving vocational programs and practices with regard to the needs of at-risk

students, four items were included in the teacher questionnaire that dealt with this emphasis. Those items focused directly on the time teachers spend working on developing instruction-related plans and materials for use with their at-risk students. The data obtained via those items are summarized in figure 30.

The results shown in figure 30 suggest the following:

- Vocational (like nonvocational) teachers spend between "none" and "1 to 5" hours of their time per month (which through linear interpolation translates into about 15 minutes per month) working with their schools' special populations staff on lesson planning, curriculum development, and other instruction-related activities.

- Vocational teachers report spending less time per week than nonvocational teachers on tutoring and working with students who need special help. In both cases, the time reported is between 1 and 4 hours per week.

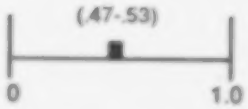
- Both vocational and nonvocational teachers report spending between 1 and 4 hours per week developing alternative activities and materials to better meet the needs of their students who require special help.

- Vocational (as well as nonvocational) teachers report that they spend between "none" and "1 to 2" hours per month (which through linear interpolation translates into about 20 minutes per month) working with their schools' guidance/counseling staff preparing IEPs and other program plans.

- About half of the vocational teachers report that special adaptive equipment/materials are available for use with/by their handicapped and disadvantaged students.

Generally, based on the preceding results, it appears that teachers devote relatively little time to planning and the development of instructional activities/materials intended to address the unique needs of their at-risk students. This rather limited degree of emphasis is particularly obvious when reflected

INDICATORS (Variables)	RESULTS**				
• Teachers' reports of the amounts of time spent per month working with special populations staff on lesson planning, curriculum development, etc., activities.	TYPES OF CLASSES	STATISTICS: $\bar{x}$	s	n	COMPARISON
	(1) Vocational	1.28	0.58	1207	t=1.61
	(2) Nonvocational	1.24	0.56	914	
• Teachers' reports of the hours per week they spend--	TYPES OF CLASSES	STATISTICS: $\bar{x}$	s	n	COMPARISONS
- "Tutoring and working with students who need special help."	(1) Vocational	2.05	0.82	1278	t=2.73*
	(2) Nonvocational	2.15	0.92	930	
- "Developing alternative activities and materials to better meet the needs of students who require special help."	(1) Vocational	1.93	0.81	1280	t=0.68
	(2) Nonvocational	1.95	0.82	918	
• Teachers' reports of time spent during typical month working with guidance staff on "preparing IEP or other program plans for individual students?"	TYPES OF CLASSES	STATISTICS: $\bar{x}$	s	n	COMPARISON
	(1) Vocational	1.33	0.64	1263	t=1.44
	(2) Nonvocational	1.38	0.84	925	
• Vocational teachers' reports of the availability of special adaptive equipment and materials for use with/by handicapped and disadvantaged students.	STATISTICS: $\hat{p}$	n			
	.50	1153			



* Significant at $\alpha = .05$ level.

** The graph shown depicts a 95% confidence interval for the designated variable (vocational teachers only).

Figure 30. Results related to research question 3b--How much time do vocational teachers devote to the preparation of alternative activities and materials to better meet the needs of at-risk students?

against the mandate in the Perkins Act that "special needs" initiatives should account for 57 percent of the funds spent. Although instruction-related planning and materials development represent only a small portion of the array of potential initiatives that could be undertaken, it would still appear that a disproportionately smaller amount of teacher time is being spent on such activities than was either intended under the Perkins Act or is required to address adequately the diverse needs of the various "special needs" populations to be served.

The preceding concern is not restricted to vocational teachers and vocational education, nor is it meant as a criticism of current teachers. Rather, it serves as a confirmation of the "lip service" our educational system (starting at the Federal level) pays to the need to address more adequately the unique problems surrounding the education of at-risk youth, but fails to support with rational mechanisms and adequate means to effectively address the problem. Furthermore, as noted earlier, this concern is not restricted to just the Perkins Act and vocational education, since it appears that vocational and nonvocational teachers do not differ substantially in regard to the overall amounts of time they report spending on such activities/efforts.

Although these results suggest that the overall level of teacher involvement in the planning and development of materials/activities for special needs students appears quite low, particularly in relation to the fiscal emphasis called for in the Perkins Act, the current data provide no insights into either the specific kinds of development activities in which teachers are

involved or the quality of those efforts. For example, if teachers actually spend "1-4" hours per week "developing alternative activities and materials to meet the needs of students who require special help" as reported, then there should be a considerable array of such alternatives available, which one could observe in use and "put their hands on" while in classrooms. Generally, however, this was not the case. For that matter, it was often very difficult for observers to find descriptions of courses and lessons, let alone specific materials/activities used with/by one or two students within the classes they observed. Typically, it appeared that the special students received basically the same materials and activities as the other students in the class. If alterations were made, they were usually delivered orally and/or were operationalized via the provision of additional "assistance" to the special needs student(s) in question. Such efforts are difficult to document and even more difficult to evaluate with regard to their impact on student learning.

Do the Instructional Materials and Procedures Used in Classes with Higher Concentrations of Specific At-Risk Students Differ from Those Used in Classes with Lower Concentrations of Such Students? (Question 3c)

Statistics are clear regarding the cost to our society and our economy when students leave school with a lack of marketable skills. Because vocational education has been recognized as an effective vehicle for the transmission of job skills, legislation is in place affirming that all students--particularly those at-risk of dropping out--in our secondary and postsecondary schools

have the same rights to vocational training. The legislation that guarantees those rights is found in the following acts:

- The Education for All Handicapped Children Act of 1975
- The Rehabilitation Act of 1973
- The Job Training Partnership Act
- The Carl Perkins Vocational Education Act

Local schools have responded to the legislative requirements by mainstreaming an increasing number of special needs students into vocational education. Successful mainstreaming involves unflagging commitment and cooperation of teachers, counselors, parents, and administrators; adoption of curriculum and teaching strategies to accommodate student styles and limitations; and effective reward/reinforcement systems for individuals that do not negatively affect class standards.

Given the emphasis in the current federal vocational legislation on identifying and developing improved instructional practices in vocational education programs for different groups of at-risk students, an effort was made to describe how selected instructional materials and activities being used in classrooms which involve large concentrations of such students differ, if at all, from the practices being used in classrooms with smaller concentrations of those students. The assumption made when initiating this effort was that attempts to accommodate and address the unique needs of at-risk students could, even in "mainstreamed" contexts, necessitate the use of different and more diverse types of instructional practices. The various dependent

variables employed in this descriptive analysis (i.e., the indicators of different materials and procedures reportedly used or observed in use) were drawn primarily from the teacher questionnaire and the classroom observation booklets. In all, five items from each of these instruments served to define the dependent variables used.

The different groups of at-risk students considered were "minority," "handicapped," and "disadvantaged" students. The concentrations of such students found in the classrooms studied were defined in the operational definitions noted in the second column of figure 31.

The results of the statistical analyses summarized in figure 31 indicate the following:

- There are numerous differences between vocational and nonvocational classrooms in terms of the types of materials and activities employed in those classes, such as the instructional process employed in vocational classes differs from that employed in nonvocational classes. Generally, this aspect of the results duplicates those noted earlier in relation to objective 1 (e.g., questions 1b and 1g) and, therefore, will not be emphasized further as part of the current discussion.

- Teachers in classes with low, median, and high proportions of minority, handicapped, and disadvantaged students generally administer about the same numbers of major exams to their classes. Although this same pattern was generally observed for quizzes as well, an exception occurred in the case of <u>classes with a high proportion of disadvantaged</u> students. In those classes significantly <u>fewer quizzes were administered than in classes with median or low proportions of disadvantaged students</u>.

- Teachers across classes with high, median, and low proportions of minority, handicapped, and disadvantaged students report assigning roughly the same amounts of homework to their classes.

INDICATORS (Variables)	RESULTS												
		STATISTICS BY CLASSES AND GROUPS:											
		(1) Vocational						(2) Nonvocational					
	GROUPING VARIABLES	Low		Med.		High		Low		Med.		High	
		$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
• Teachers' reports of the number of (a or b) administered per grading period for each report card--													
(a) Major examinations	-% Minority Students (Low ≤ 9%, Med > 9% and ≤ 16%, High > 16%)	3.2	358	3.2	478	3.3	421	3.4	247	3.6	368	3.7	276
	COMPARISONS:	F-Interaction=0.76, F-Groups=2.99 F-Classes=35.30* and MS Error=1.43											
	-% Handicapped Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	3.2	258	3.2	222	3.2	271	3.5	155	3.6	200	3.4	196
	COMPARISONS:	F-Interaction=0.62, F-Groups=0.74 F-Classes=15.44* and MS Error=1.45											
	-% Disadvantaged Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	3.2	113	3.2	154	3.1	190	3.5	112	3.6	161	3.4	146
	COMPARISONS:	F-Interaction=0.68, F-Groups=1.44 F-Classes=19.54* and MS Error=1.37											
(b) Quizzes	-% Minority Students (Low ≤ 9%, Med.> 9% and ≤ 16%, High > 16%)	3.5	354	3.5	470	3.5	412	3.4	240	3.5	363	3.5	271
	COMPARISONS:	F-Interaction=0.55, F-Groups=1.27 F-Classes=0.00 and MS Error=1.23											
	-% Handicapped Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	3.4	255	3.5	220	3.5	265	3.6	152	3.4	193	3.4	192
	COMPARISONS:	F-Interaction=0.84, F-Groups=0.04 F-Classes=0.03 and MS Error=1.25											
	-% Disadvantaged Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	3.6	174	3.5	152	3.3	188	3.4	110	3.5	155	3.3	142
	COMPARISONS:	F-Interaction=0.65, F-Groups=4.64* F-Classes=0.18 and MS Error=1.21											
• Teachers' reports of the minutes of homework assigned per class period.	-% Minority Students (Low ≤ 9%, Med. > 9% and ≤ 16%, High > 16%)	2.0	362	1.9	484	2.0	426	2.2	250	2.3	370	2.3	279
	COMPARISONS:	F-Interaction=2.55, F-Groups=0.04 F-Classes=85.11* and MS Error=0.60											
	-% Handicapped Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	2.0	262	1.9	224	2.0	273	2.3	156	2.2	200	2.3	200
	COMPARISONS:	F-Interaction=0.08, F-Groups=0.93 F-Classes=51.71* and MS Error=0.62											
	-% Disadvantaged Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	2.0	176	1.8	158	1.9	190	2.4	114	23	160	2.2	149
	COMPARISONS:	F-Interaction=1.11, F-Groups=2.20 F-Classes=46.36* and MS Error=0.61											

* Significant at $\alpha = .05$ level.

Figure 31. Results related to research question 3c–Do the instructional materials and procedures used in classes with higher concentrations of specific at-risk students differ from those used in classes with lower concentrations of such students?

INDICATORS (Variables)	RESULTS												
		STATISTICS BY CLASSES AND GROUPS:											
		(1) Vocational						(2) Nonvocational					
	GROUPING VARIABLES	Low		Med.		High		Low		Med.		High	
		x̄	n	x̄	n	x̄	n	x̄	n	x̄	n	x̄	n
• Teachers' reports of the numbers of writing assignments of at least one page each made to students during a typical month.	-% Minority Students (Low ≤ 9%, Med. > 9% and ≤ 16%, High >16%)	2.4	358	2.3	481	2.3	426	2.8	251	2.6	373	2.5	281
	COMPARISONS: F-Interaction=0.56, F-Groups=2.50 F-Classes=22.12* and MS Error=1.89												
	-% Handicapped Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	2.5	260	2.3	225	2.3	269	2.7	155	2.5	202	2.5	202
	COMPARISONS: F-Interaction=0.01, F-Groups=3.68* F-Classes=6.85* and MS Error=1.78												
	-% Disadvantaged Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	2.4	175	2.2	156	2.4	188	3.1	114	2.7	163	2.5	149
	COMPARISONS: F-Interaction=2.68, F-Groups=3.65* F-Classes=18.95* and MS Error=1.92												
• Teachers' reports of the average numbers of hours per week of teaching time they spend on reinforcing and enhancing their students' reading, math, writing, and language skills.	-% Minority Students (Low ≤ 9%, Med. > 9% and ≤ 16%, High > 16%)	2.3	362	2.2	480	2.2	424	2.5	252	2.5	374	2.5	278
	COMPARISONS: F-Interaction=0.33, F-Groups=2.08 F-Classes=45.31* and MS Error=0.72												
	-% Handicapped Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	2.3	261	2.2	225	2.3	271	2.7	156	2.3	203	2.5	201
	COMPARISONS: F-Interaction=1.41, F-Groups=6.08* F-Classes=19.54* and MS Error=0.74												
	-% Disadvantaged Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	2.3	177	2.1	156	2.3	190	2.6	114	2.4	165	2.5	159
	COMPARISONS: F-Interaction=0.10, F-Groups=4.44* F-Classes=19.83* and MS Error=0.68												
• Teachers' reports of the percentages of their students who they formally recognized for their performance during the past year.	-% Minority Students (Low ≤ 9%, Med. > 9% and ≤ 16%, High > 16%)	46.5	329	50.3	447	51.8	377	35.3	204	34.9	315	36.5	227
	COMPARISONS: F-Interaction=0.59, F-Groups=1.53 F-Classes=69.27* and MS Error=1314.70												
	-% Handicapped Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	50.1	246	51.0	200	48.7	252	41.3	135	30.0	170	35.2	168
	COMPARISONS: F-Interaction=2.67, F-Groups=1.30 F-Classes=47.56* and MS Error=1297.70												
	-% Disadvantaged Students (Low ≤ 0%, Med. > 0% and ≤ 4%, High > 4%)	49.9	161	51.3	143	47.6	175	33.7	91	29.2	131	35.8	131
	COMPARISONS: F-Interaction=1.50, F-Groups=0.11 F-Classes=44.61* and MS Error=1263.62												

* Significant at α =.05 level.

Figure 31--*Continued*

INDICATORS (Variables)	RESULTS							
	PROPORTIONS BY CLASSES AND GROUPS:							
	(1) Vocational				(2) Nonvocational			
	Low		High		Low		High	
• Types of materials used during observed episodes.	$\bar{p}$	n	$\bar{p}$	n	$\bar{p}$	n	$\bar{p}$	n
(GROUPING VARIABLE - # of Minority Students [Low ≤ 3, High > 3])								
MATERIALS								
- Textbooks	.14	293	.16	340	.30	118	.33	121
	COMPARISONS: F-Interaction=0.00, F-Groups= 2.46, F-Classes=67.89* and MS Error=0.07							
- Worksheets	.25	293	.24	340	.30	118	.34	121
	COMPARISONS: F-Interaction=0.95, F-Groups= 0.02, F-Classes=9.94* and MS Error=0.10							
- Machines/Tools	.50	293	.50	340	.05	118	.05	121
	COMPARISONS: F-Interaction=0.00, F-Groups= 0.12, F-Classes=333.66* and MS Error=0.10							
- Other Materials	.20	293	.18	340	.10	118	.12	121
	COMPARISONS: F-Interaction=0.85, F-Groups= 0.25, F-Classes=18.26* and MS Error=0.07							
(GROUPING VARIABLE - # of Handicapped Students [Low ≤ 1, High > 1])								
MATERIALS								
- Textbooks	.13	189	.16	185	.33	74	.30	78
	COMPARISONS: F-Interaction=0.90, F-Groups= 0.25, F-Classes=45.26* and MS Error=0.07							
- Worksheets	.26	189	.27	185	.29	74	.34	78
	COMPARISONS: F-Interaction=0.45, F-Groups= 0.46, F-Classes=3.09 and MS Error=0.10							
- Machines/Tools	.50	189	.48	185	.04	74	.06	78
	COMPARISONS: F-Interaction=0.29, F-Groups= 0.06, F-Classes=205.60* and MS Error=0.10							
- Other Materials	.15	189	.20	185	.08	74	.12	78
	COMPARISONS: F-Interaction=0.07, F-Groups= 4.35*, F-Classes=10.87* and MS Error=0.06							

* Significant at $\alpha = .05$ level.

Figure 31--*Continued*

INDICATORS (Variables)	RESULTS							
	PROPORTIONS BY CLASSES AND GROUPS:							
	(1) Vocational				(2) Nonvocational			
	Low		High		Low		High	
	$\bar{p}$	n	$\bar{p}$	n	$\bar{p}$	n	$\bar{p}$	n
(GROUPING VARIABLE - # of Minority Students [Low ≤ 3, High > 3])								
SELECTED ACTIVITIES								
- Discussions	.12	293	.16	340	.21	118	.27	121
	COMPARISONS: F-Interaction=0.68, F-Groups=11.93, F-Classes=43.35* and MS Error=0.04							
- Lectures	.13	293	.15	340	.30	118	.28	121
	COMPARISONS: F-Interaction=1.00, F-Groups=0.26, F-Classes=83.79* and MS Error=0.05							
- Doing Written Work	.10	293	.12	340	.20	118	.24	121
	COMPARISONS: F-Interaction=0.52, F-Groups=3.73, F-Classes=45.55* and MS Error=0.05							
- Physical Practice/ Performance	.53	293	.50	340	.05	118	.04	121
	COMPARISONS: F-Interaction=0.09, F-Groups=1.02, F-Classes=407.90* and MS Error=0.10							
(GROUPING VARIABLE - # of Handicapped Students [Low ≤ 1, High > 1])								
SELECTED ACTIVITIES								
- Discussions	.10	189	.15	185	.18	74	.24	78
	COMPARISONS: F-Interaction=0.07, F-Groups=11.30*, F-Classes=24.24* and MS Error=0.03							
- Lectures	.13	189	.15	185	.30	74	.25	78
	COMPARISONS: F-Interaction=3.51, F-Groups=0.01, F-Classes=38.81* and MS Error=0.05							
- Doing Written Work	.10	189	.14	185	.18	74	.25	78
	COMPARISONS: F-Interaction=0.26, F-Groups=7.32*, F-Classes=23.02* and MS Error=0.05							
- Physical Practice/ Performance	.52	189	.49	185	.04	74	.05	78
	COMPARISONS: F-Interaction=0.58, F-Groups=0.54, F-Classes=238.8* and MS Error=0.09							

*Significant at α=.05 level.

Figure 31--*Continued*

INDICATORS (Variables)	RESULTS								
		PROPORTIONS BY CLASSES AND GROUPS:							
		(1) Vocational				(2) Nonvocational			
	GROUPING VARIABLES	Low		High		Low		High	
		p	n	p	n	p	n	p	n
• Proportion of episodes in which one or more basic skill was addressed.	-# Minority Students (Low ≤ 3, High > 3)	.69	293	.74	340	.86	118	.89	121
		COMPARISONS:			F-Interaction=0.32, F-Groups=6.17*, F-Classes=55.79* and MS Error=0.08				
	-# Handicapped Students (Low ≤ 1, High > 1)	.67	189	.73	185	.87	74	.86	78
		COMPARISONS:			F-Interaction=2.07, F-Groups=2.96, F-Classes=34.48* and MS Error=0.08				
• Proportion of episodes in which the "leader" of instruction is observed as being the teacher.	-# Minority Students (Low ≤ 3, High > 3)	.41	293	.45	340	.67	118	.70	121
		COMPARISONS:			F-Interaction=0.12, F-Groups=2.92, F-Classes=121.30* and MS Error=0.09				
	-# Handicapped Students (Low ≤ 1, High > 1)	.38	189	.45	185	.71	74	.65	78
		COMPARISONS:			F-Interaction=4.94*, F-Groups=1.39, F-Classes=78.12* and MS Error=0.09				
• Proportion of episodes in which the students are working individually.	-# Minority Students (Low ≤ 3, High > 3)	.43	293	.40	340	.19	118	.18	121
		COMPARISONS:			F-Interaction=0.39, F-Groups=1.26, F-Classes=94.28* and MS Error=0.09				
	-# Handicapped Students (Low ≤ 1, High > 1)	.44	189	.41	185	.20	74	.22	78
		COMPARISONS:			F-Interaction=0.59, F-Groups=0.24, F-Classes=53.17* and MS Error=0.10				

* Significant at α =.05 level.

Figure 31--*Continued*

- With regard to writing assignments, the teachers of classes with low proportions of minority, handicapped and disadvantaged students generally report making more such assignments than teachers with median and high proportions of such students in their classes. In the cases of the handicapped and disadvantaged variables these differences are statistically significant.

- Teachers of classes with median proportions of minority, handicapped, and disadvantaged students report spending somewhat fewer hours per week reinforcing/enhancing their students' basic skills than do either teachers of classes with low or high proportions of such students. In the cases of the handicapped and disadvantaged variables, significant differences of the types indicated were found.

- Teachers across classes with high, median, and low proportions of minority, handicapped, and disadvantaged students report giving similar amounts of formal recognition to their students for their performance.

- Generally, in classes that differ with regard to the proportions of minority and handicapped students they serve, few systematic differences occur in the types of instructional materials that are used. A minor exception to this general finding occurred in the case of the handicapped variable, where classes with high proportions of handicapped students were observed using fewer "other materials" than were classes with low proportions of such students.

- In classes with low proportions of minority students and in classes with low proportions of handicapped students discussions are used significantly less frequently than either in classes with high proportions of minority students or in classes with high proportions of handicapped students. Likewise, in classes with low proportions of minority and handicapped students the frequency with which students were observed doing written work (e.g., worksheets, practice problems) was less than that observed in classes with high proportions of minority or handicapped students. In the case of the handicapped variable this difference was statistically significant. At the same time, no reliable differences across the minority or handicapped variables for either lectures and/or physical practice/performance were noted.

- In classes with low proportions of minority and handicapped students the teaching of basic skills was observed less frequently than in classes with high proportions of minority and handicapped students. In the case of the handicapped students this difference was significant.

- In vocational classes involving high proportions of minority and handicapped students the teachers were observed leading instruction more often than in vocational classes with low proportions of minority and handicapped students.

- No differential relationships were observed between classes with differing proportions of minority or handicapped students and students working individually on assigned tasks.

As noted earlier, overall these results duplicate the general findings observed in relation to objective 1--that the process of instruction in vocational classes differs significantly and in a variety of ways from the instructional process found in nonvocational classes. With regard to the issue in question (i.e., Is the instructional process used in classes with high concentrations of at-risk students different from that used in classes with low concentrations of such students?), however, no comparable, systematic pattern of differences was observed. It would appear that the instruction that occurs across classes that include high concentrations of at-risk students is very much like the instruction provided in other classes (whether they be other vocational or other nonvocational classes). No substantial patterns of effort were noted in regard to the differential structuring/organizing of instruction in order to more adequately accommodate the unique learning needs of the different groups of at-risk students considered. Given these results and the basic assumption noted earlier, it would appear that there is

considerable room for improvement in the instructional practices employed in vocational (and even more so in nonvocational) classrooms before the intentions reflected in the Perkins Act regarding improved programming for at-risk groups are achieved.

Are IEP's Routinely Developed for Handicapped Students in Vocational Programs across Different Types of Schools and Communicated to Appropriate Staff? (Question 3d)

The individualized education program (IEP) is the central document, mandated by the Education for All Handicapped Children Act of 1975, used to ensure that a handicapped child receives appropriate educational opportunities. Although the task of ensuring compliance with the act falls to general or special education administrators, vocational educators do have a role in developing and implementing IEPs. The law specifies several basic components of the IEP, including (Phelps and Batchelor, 1979, p. 3):

- A statement of the present levels of educational performance of the student
- A statement of annual goals, including short term instructional objectives for each student, and the extent to which the students will be able to participate in regular educational programs/services
- Appropriate objective criteria and evaluation procedures and schedules for determining, at least on an annual basis, whether instructional objectives are being achieved

Although the involvement of vocational teachers in IEP planning meetings is not mandated by the law, their presence is considered to be good educational practice and critical to the successful team effort to provide relevant education for special needs learners (Sarkees and Scott 1985, p. 141). The vocational

educator's input is especially critical when a student's enrollment in a vocational class requires some modification of activities and/or facilities/equipment to accommodate his/her handicapping condition. In this situation, the vocational teacher's expertise is needed to prepare statements of annual and short term goals, as well as teaching strategies and evaluation criteria appropriate to realizing those goals.

Given the importance of IEPs and the related developmental process for guiding the instructional programs afforded handicapped students, several questions were included in the survey instruments that dealt with the preparation and review of those basic planning documents. Specifically, three items were included in the teacher questionnaire that dealt with this issue and four items were included in the counselor questionnaire. The analyses of the resultant data generated via those different items are summarized in figure 32.

The statistical results presented in figure 32 suggest the following:

- Generally, vocational teachers do not report being as involved as nonvocational teachers in the development or review of IEPs for their handicapped students. Overall, however, the involvement of both groups appears to be quite limited, e.g., only 10 percent to 18 percent of the handicapped students' IEPs are reviewed by teachers and 5 percent to 12 percent of the handicapped students' IEPs are prepared, in part, by their teachers.

- Teachers in all three types of schools reported spending about the same amounts of time outside their regular classes on the preparation of IEPs for their handicapped students (between "0" and "1" hour per week).

INDICATORS (Variables)	RESULTS

- Teachers' reports of the amount of time they spend per week outside of class on the preparation and review of IEP's for handicapped students.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	1.24	284	1.25	480	1.25	764
- Area Vocational	1.27	463	1.29	76	1.27	539
- Vocational Specialty	1.15	170	1.43	88	1.25	258

COMPARISONS: F-Interaction=5.10*, F-Schools=0.23, F-Classes=3.81* and MS Error=0.33

- Teachers' reports of the amount of time they spend per month working with guidance/counseling staff preparing IEP's or other program plans.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	1.27	451	1.33	730	1.31	1181
- Area Vocational	1.40	561	1.61	82	1.43	643
- Vocational Specialty	1.29	251	1.52	113	1.36	364

COMPARISONS: F-Interaction=2.47, F-Schools=5.70*, F-Classes=10.76* and MS Error=0.53

- Teachers' reports of the percentage of their handicapped students for whom they have reviewed an IEP.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	14.7	282	15.1	480	14.9	762
- Area Vocational	14.5	465	16.6	75	14.7	540
- Vocational Specialty	15.3	176	15.8	86	8.8	262

COMPARISONS: F-Interaction=2.08, F-Schools=3.82*, F-Classes=2.08 and MS Error=1061.35

- Teachers' reports of the percentages of their handicapped students for whom they have helped prepare an IEP.

	TYPES OF CLASSES					
	(1) Vocational		(2) Nonvocational		Both Types Combined	
TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
- Comprehensive	7.9	282	11.2	479	10.0	761
- Area Vocational	6.8	465	8.3	74	7.0	539
- Vocational Specialty	1.8	176	13.3	86	5.6	262

COMPARISONS: F-Interaction=2.76, F-Schools=3.69*, F-Classes=8.81* and MS Error=674.03

- Counselors' reports of the percentage of the guidance staffs time spent on preparing IEP's for special populations.

	STATISTICS:		
TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISON
- Comprehensive	5.34	53	F-School Type=0.05
- Area Vocational	4.89	28	and MS Error=48.72
- Vocational Specialty	5.54	13	
(All 3 Types Combined)	(5.23)	(94)	

* Significant at α=.05 level.

Figure 32. Results related to research question 3d–Are IEP's routinely developed for handicapped students in vocational programs across different types of schools and communicated to appropriate staff?

INDICATORS (Variables)	RESULTS			
• Counselors' reports of the frequency with which the guidance staff gets involved in preparing and monitoring IEP's over a school year.		STATISTICS:		
	TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISON
	- Comprehensive	2.41	61	F-School Type=1.36
	- Area Vocational	2.00	33	and MS Error=1.35
	- Vocational Specialty	2.19	16	
	(All 3 Types Combined)	(2.26)	(110)	
• Counselors' reports of the approximate number of hours they spend per week counseling, preparing IEP's, and working with handicapped students and their parents.		STATISTICS:		
	TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISON
	- Comprehensive	1.71	62	F-School Type=0.45
	- Area Vocational	1.70	33	and MS Error=0.71
	- Vocational Specialty	1.50	18	
	(All 3 Types Combined)	(1.67)	(113)	
• Proportion of counselors who report being involved in **developing** IEP's for the handicapped students served by their school.		STATISTICS:		
	TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISON
	- Comprehensive	.77	62	N=0.85
	- Area Vocational	.63	35	
	- Vocational Specialty	.73	19	
	(All 3 Types Combined)	(.72)	(116)	
	THREE MOST FREQUENT DESCRIPTIONS OF ROLE PLAYED (a) Served as part (member) of team (b) Team facilitator (c) "Other" type of involvement with team			

* Significant at $\alpha = .05$ level.

Figure 32--*Continued*

- Teachers in area vocational schools reported spending more time than teachers in comprehensive or vocational specialty schools working with guidance/counseling staff preparing IEPs and other program plans. (Overall, the teachers reported spending between "some" and "1-5" hours per month working in such activities).

- Teachers in comprehensive schools reported that they have reviewed and helped prepare IEPs for a larger percentage of their handicapped students than the teachers in area vocational and vocational specialty schools.

- Although about 70 percent of the counselors who were surveyed reported being involved in developing IEPs for their schools' handicapped students, they also reported that only about 5 1/4 percent of their counseling staffs' time is spent preparing IEPs for special populations and about 1 1/4 hours per week is spent working with handicapped students and their parents.

- No differences were reported by the counselors across the three types of schools with regard to their involvement in the preparation and review of IEPs for their handicapped students.

Overall, these results indicate that the level of involvement of secondary teachers and counselors in either the development or review of IEP's for the handicapped students they serve is generally quite limited. Although the data provide no direct insights into the adequacy or quality of that involvement, the indicated time commitments made for such an important part of the program planning process for what is normally estimated as about 9 percent of the school population would seem to be seriously limited. How much thought and effort can be given to such plans when they involve somewhat less than an hour of a teacher's or counselor's time per week?

Furthermore, the current results suggest that vocational teachers are even less involved in such planning efforts than

nonvocational teachers, which is a situation that needs to be improved given the recent influx of more handicapped students into vocational programs and the specific emphasis in the Perkins Act on improved programming for at-risk students, which includes the handicapped. The need for greater involvement on the part of vocational teachers in such program planning efforts is amplified by the fact that such formalized plans are currently being proposed as an integral part of the program planning efforts undertaken for many groups of at-risk students, in addition to the handicapped. For example, IEP-like documents have been proposed for use with disadvantaged students as well as potential dropouts, both of which are designated as at-risk groups in the Perkins Act.

How Much Training Have Vocational Teachers Received to Prepare Them to Provide Critical Support Services to LEP, Handicapped, and Other At-Risk Students? (Question 3e)

According to Sarkees and Scott (1985), when working with at-risk students vocational teachers must--

- exhibit patience and perseverance,
- be open minded and adaptable,
- have pride in their abilities,
- reinforce students' performance,
- use individualized instruction techniques,
- remain current, and
- work cooperatively with other persons involved in the at-risk students' education network.

Goodlad (1984) found that generally the use of good teaching techniques and high-quality instructional materials declines from

elementary through secondary school. Specifically, he states, "There was increasingly less use of teacher praise and support for learning, less corrective guidance, a narrowing range and variety of pedagogical techniques, and declining participation by students in determining the daily conduct of their education" (p. 125).

The U.S. Department of Education has acknowledged that "vocational educators are not being afforded the opportunity to acquire the skills and abilities necessary to work effectively with the handicapped in vocational education" (Sarkees and Scott 1985, p.3). This is true not only as it applies to handicapped students but to all at-risk students. According to Goodlad (1984) because "we know that students appearing to be less able can and do approach the learning levels of those successful students when instruction is dovetailed to their special needs," (p. 104) the amount of training vocational teachers receive in dealing with at-risk students is an important concern, if the instructional practices they employ in their classrooms are to be improved.

Given the emphasis in the Perkins Act on improving the vocational education opportunities afforded at-risk students and knowing the central role teachers play in that process, an effort was made to assess the background/training of vocational teachers participating in the current survey. That effort was operationally reflected via two multi-part items included in the teacher questionnaire. One of those items dealt with the numbers of college courses teachers had completed to prepare them to work with at-risk students, while the other dealt with the numbers of hours of inservice training they completed. The results obtained

through the analyses of the data secured using these two items are summarized in figure 33.

The results shown in figure 33 indicate the following:

1. With regard to the number of college courses completed that deal with teaching at-risk students--

   - overall, the teachers reported completing less than a course in any of the areas of specialized training noted, with "addressing the needs of single parents" and "working with LEP students" being areas in which basically no training was obtained.

   - generally, nonvocational teachers reported that they completed more such courses than vocational teachers.

   - the differences between the numbers of courses completed by vocational and nonvocational teachers in comprehensive schools are generally less than the differences found between vocational and nonvocational teachers in area vocational and vocational specialty schools.

   - No consistent pattern of differences across types of schools was observed, but with regard to teaching the gifted/talented and teaching the handicapped more courses were completed by the teachers in area vocational schools than by the teachers in vocational specialty schools, whereas the teachers in comprehensive schools fell between these two extremes.

2. With regard to the number of hours of inservice completed that deal with teaching at-risk students--

   - Overall, the teachers reported completing very little specialized training (i.e., considerably less than one hour) in any of the six areas noted, with "addressing the needs of single parents" and "working with LEP students" being two areas in which little, if any, training was received.

   - Nonvocational teachers reported completing more hours of inservice dealing with teaching gifted/ talented students than vocational teachers, but when it comes to working with single parents the situation was reversed.

   - Vocational teachers in area vocational and vocational specialty schools reported receiving less inservice training in teaching the handicapped than

INDICATORS (Variables)	RESULTS

- Teachers' reports of the numbers of college courses taken in the following--

AREAS OF TRAINING	TYPES OF SCHOOLS	TYPES OF CLASSES: (1) Vocational $\bar{x}$	n	(2) Nonvocational $\bar{x}$	n
(a) Teaching gifted/ talented students	- Comprehensive	1.70	452	1.82	731
	- Area Vocational	1.79	566	2.12	81
	- Vocational Specialty	1.60	250	1.73	116
	COMPARISONS:	F-Interaction=1.41, F-Schools=4.57* F-Classes=12.23* and MS Error=0.93			
(b) Teaching the handicapped	- Comprehensive	1.77	449	1.82	731
	- Area Vocational	1.88	571	1.94	83
	- Vocational Specialty	1.59	251	1.91	116
	COMPARISONS:	F-Interaction=2.13, F-Schools=4.32* F-Classes=4.25* and MS Error=1.05			
(c) Working with and teaching LEP students	- Comprehensive	1.20	450	1.28	732
	- Area Vocational	1.15	561	1.45	82
	- Vocational Specialty	1.16	250	1.42	116
	COMPARISONS:	F-Interaction=5.01*, F-Schools=2.37 F-Classes=24.63* and MS Error=0.40			
(d) Teaching disadvantaged and dropout-prone students	- Comprehensive	1.65	453	1.61	732
	- Area Vocational	1.61	569	1.88	82
	- Vocational Specialty	1.57	249	1.89	116
	COMPARISONS:	F-Interaction=5.90*, F-Schools=0.40 F-Classes=3.13 and MS Error=0.90			
(e) Addressing the needs of single parents	- Comprehensive	1.30	448	1.14	729
	- Area Vocational	1.13	569	1.12	81
	- Vocational Specialty	1.13	250	1.15	116
	COMPARISONS:	F-Interaction=5.05*, F-Schools=4.76* F-Classes=15.37* and MS Error=0.26			

- Teachers' reports of the numbers of hours of in-service training received in--

AREAS OF TRAINING	TYPES OF SCHOOLS	TYPES OF CLASSES: (1) Vocational $\bar{x}$	n	(2) Nonvocational $\bar{x}$	n
(a) Teaching gifted/ talented students	- Comprehensive	1.50	456	1.68	725
	- Area Vocational	1.49	562	1.66	83
	- Vocational Specialty	1.33	253	1.34	117
	COMPARISONS:	F-Interaction=0.95, F-Schools=12.46* F-Classes=10.21* and MS Error=0.89			

* Significant at $\alpha = .05$ level.

Figure 33. Results related to research question 3e--What training have vocational teachers received to prepare them to provide critical support services to LEP, handicapped and other at-risk students?

INDICATORS (Variables)		RESULTS			
		TYPES OF CLASSES:			
		(1) Vocational		(2) Nonvocational	
AREAS OF TRAINING	TYPES OF SCHOOLS	$\bar{x}$	n	$\bar{x}$	n
(b) Teaching the handicapped	- Comprehensive	1.63	456	1.56	724
	- Area Vocational	1.62	563	1.73	81
	- Vocational Specialty	1.42	252	1.66	116
	COMPARISONS: F-Interaction=3.22*, F-Schools=2.01 F-Classes=0.14 and MS Error=1.08				
(c) Working with and teaching LEP students	- Comprehensive	1.23	451	1.22	724
	- Area Vocational	1.14	557	1.33	81
	- Vocational Specialty	1.20	252	1.29	114
	COMPARISONS: F-Interaction=2.83, F-Schools=1.65 F-Classes=1.95 and MS Error=0.42				
(d) Teaching disadvantaged and dropout-prone students	- Comprehensive	1.65	454	1.58	727
	- Area Vocational	1.57	564	1.82	81
	- Vocational Specialty	1.56	250	1.60	116
	COMPARISONS: F-Interaction=2.88, F-Schools=0.11 F-Classes=0.00 and MS Error=1.05				
(f) Addressing the needs of single parents	- Comprehensive	1.28	452	1.12	724
	- Area Vocational	1.14	558	1.12	82
	- Vocational Specialty	1.15	251	1.16	116
	COMPARISONS: F-Interaction=4.26*, F-Schools=1.67 F-Classes=16.68* and MS Error=0.29				

* Significant at $\alpha = .05$ level.

Figure 33--*Continued*

their nonvocational peers, but a comparable difference was not reported by the two groups of teachers in comprehensive schools.

- Vocational teachers in comprehensive schools reported receiving more hours of inservice training related to addressing the needs of single parents than their nonvocational peers, but no comparable differences between the two groups of teachers were observed for area vocational and vocational specialty schools.

Overall, these results suggest that teachers (vocational and nonvocational alike) currently receive very limited training, both through formal college courses and inservice, in working with and addressing the unique needs of various at-risk students. With regard to vocational teachers, the emphasis in the Perkins Act on serving at-risk youth would seem to suggest that this limited training is inadequate and that more needs to be done to change the present situation. Furthermore, the finding that vocational teachers generally receive less training in working with special needs students than do nonvocational teachers suggests that a considerable effort needs to be initiated if the intent of the Perkins Act with regard to meeting the needs of at-risk students is to be achieved. Not only does the disparity between the two groups of teachers need to be erased, but the overall level of preparation and training of both groups in all probability needs to be increased significantly.

To What Extent Are Secondary Vocational Education Programs and Facilities Used to Meet the Needs of Adults, Including Inmates? (Question 3f)

Our notions about education--how it is done, to whom, when, and where--must evolve to keep pace with the realities of

demographic and technological change that are occurring in our society. That education is delivered just to young people, in schools or colleges for a stereotyped job probably always has been a far too simplistic view of a dynamic process that occurs in varied settings, for young, middle aged, and old alike (Darkenwald and Merriam, p. 2). The current popularity of the concept "life long learning" is grounded in the realities of adults who are participating in educational programs from a variety of societal contexts, some of which are--

- young adults returning for a high school diploma,
- women reentering the work force,
- displaced workers retraining for new positions,
- workers updating their skills in present positions,
- immigrants learning language and citizenship skills,
- inmates preparing to take part in society,
- retirees expanding intellectual, cultural or artistic interests.

Authors of the Carl D. Perkins Vocational Education Act, recognizing that the needs of some categories of adults may currently be inadequately addressed by vocational programming, provide for funding "to meet the special needs of, and to enhance the participation of . . . (3) adults who are in need of training and retraining; (4) individuals who are single parents or homemakers; . . . (6) criminal offenders who are serving in a correctional institution." (U.S. Congress p. 17)

Given the anticipated need for more expanded and diversified training and retraining of our adult population in the near

future, the decision was made to include several items in the project instruments that would help provide a clearer national picture of the extent to which vocational programs and facilities are currently being used to help address those needs. Four of those items were included in the principal questionnaire, one was included in the counselor questionnaire, and one was part of the counselor interview. The results obtained through those different items are summarized in figure 34.

The results presented in figure 34 suggest the following:

- Fewer adults who are being trained/retrained appear to be served by comprehensive schools than by either area vocational or vocational specialty schools, though the difference is not statistically significant.

- Generally, more area vocational and vocational specialty schools than comprehensive schools provide facilities or teachers for postsecondary courses leading to a degree.

- Area vocational schools are more likely to offer adult classes (not leading to a degree) and JTPA, apprenticeship, and other special courses/programs for business/industry than are either comprehensive or vocational specialty schools.

- Area vocational schools appear somewhat more likely to be involved in offering off-campus vocational classes/programs than either comprehensive or vocational specialty schools, although the difference is not statistically significant.

- Counselors in all three types of schools report spending about the same amounts of time per week, albeit relatively little (less than 1 hour), working with adults and displaced workers.

- Approximately 40 percent of the counselors reported being involved in some type(s) of programmatic activities at their schools for different groups of adults. This participation level did not differ across the three types of schools studied.

INDICATORS (Variables)	RESULTS			
• Principals' reports of the percentage of their students who are adults who are being trained/retrained.		STATISTICS:		
	TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISON
	- Comprehensive	0.62	26	F-School Type=2.77
	- Area Vocational	10.16	25	and MS Error=254.24
	- Vocational Specialty	10.33	12	
	(All 3 Types Combined)	(6.25)	(63)	
• Proportion of school principals who report that their schools provide facilities or teachers for--				
		STATISTICS:		
	TYPES OF SCHOOLS	$\hat{p}$	n	COMPARISON
- Postsecondary courses leading to a degree	- Comprehensive	.15	54	χ^2=4.60
	- Area Vocational	.31	36	
	- Vocational Specialty	.35	17	
	(All 3 Types Combined)	(.23)	(107)	
- Adult Classes (not leading to a degree)	- Comprehensive	.50	54	χ^2=8.60*
	- Area Vocational	.81	36	
	- Vocational Specialty	.59	17	
	(All 3 Types Combined)	(.62)	(107)	
- JTPA, apprenticeship or other programs as well as special course programs for business/industry in the area.	- Comprehensive	.29	54	χ^2=9.13*
	- Area Vocational	.61	36	
	- Vocational Specialty	.35	17	
	(All 3 Types Combined)	(.41)	(17)	
• Proportion of school principals who report that their school provides teaching, personal, administrative support services, etc. for vocational classes/programs off campus (e.g., in penal institution).		STATISTICS:		
	TYPES OF SCHOOLS	$\hat{p}$	n	COMPARISON
	- Comprehensive	.14	51	χ^2=4.65
	- Area Vocational	.44	36	
	- Vocational Specialty	.12	17	
	(All 3 Types Combined)	(.24)	(104)	
• Counselors' reports regarding the approximate number of hours they spend per week counseling and working with adults and displaced workers who need retraining or additional training.		STATISTICS:		
	TYPES OF SCHOOLS	$\bar{x}$	n	COMPARISON
	- Comprehensive	1.52	62	F-School Type=0.45
	- Area Vocational	1.55	33	MS Error=0.25
	- Vocational Specialty	1.65	17	
	(All 3 Types Combined)	(1.54)	(112)	
• Proportion of counselors who report that they participate in some type(s) of programmatic activities at their school that involve out-of-school youth, the retraining of adults, or providing training for inmates.		STATISTICS:		
	TYPES OF SCHOOLS	$\hat{p}$	n	COMPARISON
	- Comprehensive	.50	62	χ^2=3.52
	- Area Vocational	.40	35	
	- Vocational Specialty	.26	19	
	(All 3 Types Combined)	(.43)	(116)	

* Significant at α=.05 level.

Figure 34. Results related to research question 3f--To what extent are secondary vocational education programs and facilities used to meet the needs of adults and inmates?

The general picture provided by the preceding results is that training/retraining in secondary vocational settings for different groups of adults is occurring more in area vocational and vocational specialty schools (particularly area vocational schools) than in comprehensive schools. Furthermore, it would appear that about 6 percent of the students across all three types of schools are adults and that roughly 40-50 percent of the sampled schools offer courses or other special programs which directly address the needs of adult learners. The frequency with which such courses and special programs are offered in area vocational schools is greater than it is in either vocational specialty or comprehensive schools.

Overall, the preceding picture suggests that secondary schools that offer vocational education programs are trying to help address the current need for adult training/retraining facing our workforce. The available data, however, provide no insights into either the adequacy or quality of those responses. This, along with the fact that the sample sizes were limited, suggests that more intensive research into the issue in question should probably be undertaken in a larger sample of schools. In addition, any future research related to this issue should attempt to place secondary vocational education within the overall adult educational delivery system and delineate both its role and summative implications within the context of that overall system.

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APPENDIX A

SURVEY INSTRUMENTS

TO: _____

FROM: _____

Visitor - Field Site Representative
The National Center for Research in
Vocational Education
The Ohio State University

PLEASE RETURN YOUR COMPLETED MATERIAL TO THE SCHOOL OFFICE BY THE END OF THE SCHOOL DAY ON THURSDAY. THANK YOU

CONFIDENTIAL - FOR RESEARCH PURPOSES ONLY

YOUR PARTICIPATION IN THIS STUDY IS VOLUNTARY

TEACHERS

Understanding the Dynamics of Secondary Vocational Classrooms

Conducted by:

The National Center for Research in Vocational Education
The Ohio State University

Sponsored by:

Office of Vocational and Adult Education
U.S. Department of Education

In cooperation with your State Department of Education

Why we need your help....

Your state and your school are helping in a national study on vocational education. You have been selected as a representative of your school to help with that study. Your answers to the questions that follow are very important. They will help provide a basis for more accurately describing the vocational experiences offered in our secondary schools and should also provide support for future improvements in vocational education.

How you can help....

On the pages that follow you will find questions that deal with your background and experience, the kinds of staff development training provided by your school, and characteristics of the courses you teach. These questions can be answered quickly by placing an "X" or a check mark "✓" in the "[3]" next to your answer or by filling in the blank spaces provided. (See the two examples shown in the box below.) Please answer all the questions as accurately as possible. Please use a pen to mark your responses. Preliminary information suggests that it takes between 35 and 40 minutes to complete this instrument.

EXAMPLE 1:

- Nationally, about what percentage of U.S. high school students (grades 9-12) drop out each year?

  [1] Between 4% and 8%
  [2] Slightly less than 15%
  [✓] About 28%
  [4] Over 50%

EXAMPLE 2:

- About what percentage of the students (grades 9-12) in your school are:

  (a) Females? 51 %
  (b) Males? 49 %

When you have completed your questionnaire, (a) fold it in half, (b) staple or tape it together at the point shown on the back page, and (c) return it to your school office, where it will be turned over to the National Center staff member who is visiting your school. Again, we want to note that your participation in this study is voluntary. In addition, the information you provide will be treated in the strictest confidence; no data will be associated with the name of an individual or school in any project-related reports or other form of information dissemination. All data will be aggregated across individuals, schools, and states and described only at the regional and national levels.

WOULD YOU LIKE A SUMMARY REPORT OF OUR STUDY? [ ] YES [ ] NO

Name _____ School _____

1. When were you born?

_____/_____
month year

2. What is your sex?

[1] Female [2] Male

3. What is the highest level of education you have completed? (Check one.)

[1] High school diploma
[2] Some college-no certificate
[3] Business/industry school certificate
[4] Associate degree (2 or more years)
[5] Bachelor's degree
[6] Bachelor's degree plus
[7] Master's degree
[8] Specialist or 6-year certificate
[9] Doctorate

4. In what year did you complete your highest level of education as noted in question 3?

_____
year

5. What is your ethnic group? (Check one.)

[1] American Indian or Alaskan Native
[2] Asian American or Pacific Islander
[3] Black, not of Hispanic origin
[4] Hispanic
[5] White, not of Hispanic origin
[6] Other (Specify: _____)

6. Print the name of the college or university where you received your bachelor's degree or attended college. If you have not completed a bachelor's degree, please give the name of the college or university where you earned the largest number of college credits.

Name of College or University_____

City _____ State _____

7. How many years of experience have you had as a full-time teacher?

[1] Less than one
[2] One
[3] Two
[4] Three
[5] Four or five
[6] Six to ten
[7] Eleven to twenty
[8] Over twenty

8. How many days of teaching have you missed (for any reason), during the past year?

[1] No days absent
[2] One or two days
[3] Three or four days
[4] Five to eight days
[5] Nine to twelve days
[6] Thirteen to twenty days
[7] Twenty-one to twenty-eight days
[8] Over twenty-eight days

9. On the average, how many hours <u>per week</u> are you assigned to teach? (Exclude study halls, homeroom, preparation periods, etc.)

[1] Five hours or less
[2] Six to ten hours
[3] Eleven to fifteen hours
[4] Sixteen to twenty hours
[5] Twenty-one to twenty-five hours
[6] Over twenty-five hours

10. What is the average size of the classes you are teaching?

[1] Less than ten students
[2] Eleven to fifteen students
[3] Sixteen to twenty students
[4] Twenty-one to twenty-five students
[5] Twenty-six to thirty students
[6] Over 30 students

11. During the last four years, in what subject area(s) have you taught courses? (WRITE IN THE APPROPRIATE SUBJECT AREA CODE(S) FROM THE LIST BELOW.) If you teach only one subject, enter 99 for the second and third most frequently taught. If you teach only two subjects, enter 99 for the third.)

(a) Subject most frequently taught - _____

(b) Second most frequently taught subject - _____

(c) Third most frequently taught subject - _____

FIELD OF STUDY/COURSE SUBJECT CODES

Code	Course Subject
	EDUCATION
01	Guidance & Counseling
02	Physical Education
03	Reading Education
04	Special Education
05	Speech & Hearing Therapy
	VOCATIONAL EDUCATION AND RELATED SUBJECTS
06	Agricultural Education
07	Marketing & Distributive Ed
08	Health Occupations
09	Consumer & Homemaking
10	Occupational Home Economics
11	Office Occupations (e.g., typing, shorthand)
12	Trade and Industry
13	Technical Occupations
14	Industrial Arts (Purpose General Ed)
15	Other Business
	HUMANITIES
16	Classics
17	Drama
18	English
19	Visual Arts
20	Latin or Greek
21	French
22	Spanish
23	German
24	Other Modern Languages
25	Music
26	Philosophy
27	Religion
28	Other
	SCIENCES
29	General Sciences
30	Archaeology
31	Astronomy
32	Biology
33	Chemistry
34	Geography
35	Physics
36	Health
37	Other
	SOCIAL SCIENCES
38	American or State History
39	Anthropology
40	Economics
41	Ethnic Studies
42	Government (Political Science)
43	World History
44	Psychology
45	Sociology
46	Civics
47	Other
	MATHEMATICS (courses taught in high school)
48	General or Business Math, etc
49	Geometry, Algebra, Trigonometry, etc
50	Analytic Geometry, Introduction to Calculus, and other advanced math
51	Computer Programming
	OTHER AREAS OF STUDY
52	Engineering
53	Journalism-Communications
54	Military Science
55	Nurses Training
56	Other Health
57	Law Enforcement & Corrections
58	Agriculture
59	Architecture
60	Library Science
61	Other

12. In reference to question 11, about how many college courses have you taken in each of the three subject areas where you most frequently teach? **IF TEACHING HISTORY, INCLUDE ALL HISTORY COURSES; IF TEACHING ANY MATH SUBJECT, INCLUDE ALL MATH COURSES. IF YOU ARE UNSURE, GIVE YOUR BEST ESTIMATE.** (If you coded "99" for the second or third most frequently taught subject area, leave the corresponding column(s) blank for this question, as well as questions 13 and 14.)

(a) Courses taken in most frequently taught subject area	(b) Courses taken in second most frequently taught subject area	(c) Courses taken in third most frequently taught subject area
[1] None	[1] None	[1] None
[2] One to five	[2] One to three	[2] One to three
[3] Six to ten	[3] Four to six	[3] Four to six
[4] Eleven to fifteen	[4] Seven to nine	[4] Seven to nine
[5] Over fifteen	[5] Ten or more	[5] Ten or more

13. Do you have state certification to teach in all of the subject areas you most frequently teach?

(a) Most frequently taught subject area	(b) Second most frequently taught subject area	(c) Third most frequently taught subject area
[1] Yes	[1] Yes	[1] Yes
[2] No, need more substantive courses	[2] No, need more substantive courses	[2] No, need more substantive courses
[3] No, need more education courses	[3] No, need more education courses	[3] No, need more education courses

14. How long have you been certified to teach in your . . .

(a) Most frequently taught subject area	(b) Second most frequently taught subject area	(c) Third most frequently taught subject area
[1] Not certified in this area	[1] Not certified in this area	[1] Not certified in this area
[2] One year or less	[2] One year or less	[2] One year or less
[3] Two to five years	[3] Two to five years	[3] Two to five years
[4] Five to ten years	[4] Five to ten years	[4] Five to ten years
[5] Over ten years	[5] Over ten years	[5] Over ten years

15. How much influence and control do you have over each of the following areas in relation to the courses you are assigned to teach?

	None				A Great Deal
(a) Establishing the schoolwide curriculum in the subject area where your courses are classified	[1]	[2]	[3]	[4]	[5]
(b) Selecting the content, topics, and skills to be taught in specific courses.	[1]	[2]	[3]	[4]	[5]
(c) Selecting instructional techniques to be used.	[1]	[2]	[3]	[4]	[5]
(d) Selecting textbooks and other instructional materials.	[1]	[2]	[3]	[4]	[5]

16. Which four of the following goals do you emphasize most in your teaching? **(Rank these 4 goals in priority order by placing 1, 2, 3, or 4 in the box provided.)**

(a)[ ] Basic skills development (e.g., reading, basic math, writing, speaking)

(b)[ ] Advanced skills development (e.g., chemistry, foreign language, advanced math)

(c)[ ] Citizenship (e.g., voting rights and privileges, civic responsibilities)

(d)[ ] Specific occupational skills (e.g., operating a lathe or taking blood pressure)

(e)[ ] Personal growth and fulfillment (e.g., self-esteem, improved self-concept)

(f)[ ] Good work habits and self-discipline (e.g., punctuality)

(g)[ ] Human relation skills (e.g., getting along with others, cultural understanding)

(h)[ ] Moral and religious values

(i)[ ] Career development skills (e.g., occupational information or how coursework relates to future employment)

17. How much time per month do you spend meeting with the following groups to work on lesson planning, curriculum development or up-dating, guidance and counseling, evaluation of programs, or other collaborative work related to instruction?

	HOURS SPENT:				
	None	1-5	6-10	11-20	Over 10
(a) Department head or other supervisor	[1]	[2]	[3]	[4]	[5]
(b) School administrator(s) - other than those mentioned in "a"	[1]	[2]	[3]	[4]	[5]
(c) Advisory committee - business and industry representatives, educational specialists or consultants, etc.	[1]	[2]	[3]	[4]	[5]
(d) Other teachers	[1]	[2]	[3]	[4]	[5]
(e) Guidance/Counseling staff and placement	[1]	[2]	[3]	[4]	[5]
(f) Special Populations coordination	[1]	[2]	[3]	[4]	[5]

18. In addition to the hours you are assigned to teach during a typical week, about how many hours outside of class do you spend on each of the following activities? **IF UNSURE, GIVE YOUR BEST GUESS.**

	HOURS SPENT:					
	0	1-4	5-8	9-12	13-20	Over 20
(a) Hall duty, study hall, homeroom, lunchroom, supervising students on detention, or similar duties	[1]	[2]	[3]	[4]	[5]	[6]
(b) Completing forms and administrative paperwork	[1]	[2]	[3]	[4]	[5]	[6]
(c) Preparing lessons, composing tests, grading papers, etc.	[1]	[2]	[3]	[4]	[5]	[6]
(d) Counseling students - personal problems	[1]	[2]	[3]	[4]	[5]	[6]
(e) Counseling students - career development	[1]	[2]	[3]	[4]	[5]	[6]
(f) Tutoring and working with students who need special help	[1]	[2]	[3]	[4]	[5]	[6]
(g) Contacting employers on students' behalf and visiting students at worksites	[1]	[2]	[3]	[4]	[5]	[6]
(h) Coaching sports (averaged over school year)	[1]	[2]	[3]	[4]	[5]	[6]
(i) Extra-curricular activities (e.g., VICA, debate team, other clubs)	[1]	[2]	[3]	[4]	[5]	[6]
(j) Working - self-employed	[1]	[2]	[3]	[4]	[5]	[6]
(k) Working - employer other than the school (not self-employed)	[1]	[2]	[3]	[4]	[5]	[6]
(l) Background reading in your subject area	[1]	[2]	[3]	[4]	[5]	[6]
(m) Other background reading (e.g., changes in education, equity issues, teaching special students)	[1]	[2]	[3]	[4]	[5]	[6]
(n) Developing alternative activities and materials to better meet the needs of students who require special help (e.g., potential dropouts, handicapped students)	[1]	[2]	[3]	[4]	[5]	[6]
(o) Obtaining additional professional training	[1]	[2]	[3]	[4]	[5]	[6]
(p) Working on the preparation and review of IEP's for handicapped students	[1]	[2]	[3]	[4]	[5]	[6]

19. During the past year, how many times has your department head or any other supervisor observed your teaching?

[1] Never
[2] Once
[3] Twice
[4] Three or four times
[5] Five to nine times
[6] Ten or more times

20. During a typical month about how much of the time you spend working with the guidance/counseling staff is spent....

	HOURS SPENT: None	1-2	3-4	5-6	Over 6
(a) . . . conferring about the test scores, attitudes, and behaviors of individual students?	[1]	[2]	[3]	[4]	[5]
(b) . . . preparing IEPs or other program plans for individual students?	[1]	[2]	[3]	[4]	[5]
(c) . . . on career guidance activities (e.g., setting up work experiences with employers, reviewing career development materials, occupational interest testing)?	[1]	[2]	[3]	[4]	[5]

21. Do you work full-time or part-time for your school?

[1] Full-time
[2] Over half-time but not full-time
[3] Half-time
[4] Less than half-time

22. Are you paid for working for . . .

[1] less than nine months?
[2] nine months?
[3] ten months?
[4] eleven months?
[5] twelve months?

23. What is your approximate annual salary from your school before taxes?

[1] Under $10,000
[2] $10,000 to $13,999
[3] $14,000 to $17,999
[4] $18,000 to $21,999
[5] $22,000 to $25,999
[6] $26,000 to $29,999
[7] $30,000 to $33,999
[8] $34,000 or more

24. About how many college courses have you taken in each of the following general areas? A course is one that meets 2-5 classroom hours per week during one semester or quarter. **(Note: the symbol "+" is used to indicate part of a course but not an entire course.)**

	COURSES TAKEN: None	0+ to 1	1+ to 2	Over 2
(a) Using special procedures and techniques for teaching gifted/talented students	[1]	[2]	[3]	[4]
(b) Teaching the handicapped	[1]	[2]	[3]	[4]
(c) Communications including English and Language Arts	[1]	[2]	[3]	[4]
(d) Working with and teaching Limited English Proficiency Students (LEP/Bilingual)	[1]	[2]	[3]	[4]
(e) Teaching the disadvantaged and dropout-prone students	[1]	[2]	[3]	[4]
(f) Working with and teaching students in programs nontraditional for their sex	[1]	[2]	[3]	[4]
(g) Teaching basic skills in your subject area	[1]	[2]	[3]	[4]
(h) Mathematics, including algebra, geometry, statistics, advanced mathematics	[1]	[2]	[3]	[4]
(i) Addressing the needs of single parents	[1]	[2]	[3]	[4]

25. During the last year, what percentage of your students' parents (or guardians) have you talked with regarding their performance in your class(es)?

[1] None - zero percent
[2] One to ten percent
[3] From ten to twenty percent
[4] From twenty to thirty percent
[5] From thirty to fifty percent
[6] Fifty percent or more

26. During the last year, how many half-days have you spent in inservice programs that were held for . . .

(a) . . . the whole school staff together?

[1] None
[2] One half-day
[3] Two half-days
[4] Three half-days
[5] Four half days
[6] Five or more half-days

(b) . . . a small group (e.g., a department)?

[1] None
[2] One half-day
[3] Two half-days
[4] Three half-days
[5] Four half days
[6] Five or more half-days

27. Estimate how many total hours of noncollege inservice programs you have completed in each of the following general areas.

	ESTIMATED HOURS:				
	None	1-3	4-6	7-9	Over 10
(a) Special procedures and techniques for teaching gifted/talented students	[1]	[2]	[3]	[4]	[5]
(b) Teaching the handicapped	[1]	[2]	[3]	[4]	[5]
(c) Working with and teaching Limited English Proficiency students (LEP/Bilingual)	[1]	[2]	[3]	[4]	[5]
(d) Teaching disadvantaged and dropout-prone students	[1]	[2]	[3]	[4]	[5]
(e) Working with and teaching students in programs nontraditional for their sex	[1]	[2]	[3]	[4]	[5]
(f) Addressing the needs of single parents	[1]	[2]	[3]	[4]	[5]
(g) Teaching basic skills in your subject area	[1]	[2]	[3]	[4]	[5]

28. How would you rate each of the following approaches used to deliver inservice training?

APPROACH	Not Desirable		Desirable		Highly Desirable
(a) Individual advice from instructional consultants or specialists	[1]	[2]	[3]	[4]	[5]
(b) Individualized teaching (training) material (i.e., films, workbooks, programmed learning packages)	[1]	[2]	[3]	[4]	[5]
(c) Observations of programs and teachers who have successful programs	[1]	[2]	[3]	[4]	[5]
(d) Workshops (1 to 3 days)	[1]	[2]	[3]	[4]	[5]
(e) Courses (e.g., 10 weeks - 1 session/week)	[1]	[2]	[3]	[4]	[5]
(f) On-the-job experiences (internships) in successful programs	[1]	[2]	[3]	[4]	[5]

29. How would you rate **each** of the following time periods for delivering inservice training?

TIME PERIOD	Not Desirable		Desirable		Highly Desirable
(a) "Professional" days (days when teachers are released from teaching duties to participate in professional development activities	[1]	[2]	[3]	[4]	[5]
(b) Before school--mornings	[1]	[2]	[3]	[4]	[5]
(c) After school--afternoons	[1]	[2]	[3]	[4]	[5]
(d) After school--evenings	[1]	[2]	[3]	[4]	[5]
(e) Weekends	[1]	[2]	[3]	[4]	[5]
(f) Summer-weekdays	[1]	[2]	[3]	[4]	[5]

30. Using the scale provided, please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Disagree		No Opinion		Strongly Agree
(a) Staff members in this school don't have much school spirit.	[1]	[2]	[3]	[4]	[5]
(b) The level of student misbehavior (e.g., fighting, theft, horseplay) is very high.	[1]	[2]	[3]	[4]	[5]
(c) The use of drugs or alcohol by students in this school is well below the national average.	[1]	[2]	[3]	[4]	[5]
(d) Student tardiness and class cutting are very prevalent in this school.	[1]	[2]	[3]	[4]	[5]
(e) The attitudes and habits my students bring to class are <u>not</u> very conducive to learning.	[1]	[2]	[3]	[4]	[5]
(f) This school seems like a big family--everyone is close and cordial.	[1]	[2]	[3]	[4]	[5]
(g) There is very little cooperative effort among this school's staff members and students.	[1]	[2]	[3]	[4]	[5]
(h) A very positive "climate" exists in this school.	[1]	[2]	[3]	[4]	[5]
(i) Staff members in this school have many opportunities for inservice training and staff development	[1]	[2]	[3]	[4]	[5]
(j) Staff members in this school support the need to mainstream handicapped students	[1]	[2]	[3]	[4]	[5]

31. Indicate the importance you give each of the following grading criteria when setting grades for the non-special education students in your classes.

	Not Important	Somewhat Important	Moderately Important	Very Important
(a) Absolute level of achievement	[1]	[2]	[3]	[4]
(b) Achievement relative to the rest of the class or all your classes	[1]	[2]	[3]	[4]
(c) Individual improvement or progress over past performance	[1]	[2]	[3]	[4]
(d) Effort	[1]	[2]	[3]	[4]
(e) Participation in class	[1]	[2]	[3]	[4]

32. On the average, how would you rate the students who take your classes in terms of the following basic skills?

(a) **Reading**

[1] Above the 8th grade level
[2] At about the 8th grade level
[3] Below the 8th grade level

(b) **Mathematics**

[1] Above the 8th grade level
[2] At about the 8th grade level
[3] Below the 8th grade level

33. For each report card or grading period, how often do you usually administer a . . .

(a) . . . **Major examination**

[1] Zero
[2] One
[3] Two
[4] Three or four
[5] Five or more

(b) . . . **Quiz**

[1] Zero
[2] One or two
[3] Three or four
[4] Five to ten
[5] Over ten

34. How many minutes of homework do you assign your students for each class period?

[1] None
[2] Less than 30 minutes
[3] Half-hour to an hour
[4] Over an hour

35. In some classes the teachers feel it is beneficial to assign various writing tasks to their students. In your classes, how many writing assignments of at least one page each do you assign your students during a typical month?

[1] None
[2] One or two assignments
[3] Three or four assignments
[4] Five or six assignments
[5] Seven to ten assignments
[6] Over ten assignments

36. During a routine week, how much of your teaching time is spent reinforcing and enhancing students' basic . . .

(a) . . . **Reading skills**?

[1] None
[2] About one hour
[3] Two or three hours
[4] Four to six hours
[5] Over six hours

(b) . . . **Mathematics skills**?

[1] None
[2] About one hour
[3] Two or three hours
[4] Four to six hours
[5] Over six hours

(c) . . . **Writing skills**?

[1] None
[2] About one hour
[3] Two or three hours
[4] Four to six hours
[5] Over six hours

(d) . . . **Language skills**?

[1] None
[2] About one hour
[3] Two or three hours
[4] Four to six hours
[5] Over six hours

37. On the average, about what percentage of your classes' time is spent on each of the following types of activities? **WRITE IN EACH %. IF NONE, WRITE IN "0". THE TOTAL SHOULD EQUAL 100%**

(a) Routine activities (such as set up, clean up, passing out materials, taking attendance, breaks). ____%
(b) Getting students to behave, to be quiet, etc. ____%
(c) Instruction (lecturing, demonstrating, discussing, etc.) ____%
(d) Student practice of skills (practice problems, projects, laboratory work, etc.) ____%
(e) Other activities (Specify: _____) ____%

TOTAL = 100%

38. During the last year, what percentage of the students in your classes did you formally recognize for their performance (e.g., via progress charts, certificates, class newsletters, pictures or names on bulletin boards, displaying or reading students' work)? _____%

39. In your classes approximately how many minutes of class time during a routine week do your students spend on the following activities. **(WRITE IN AN ESTIMATE FOR EACH ACTIVITY. IF NONE, WRITE IN A '0'. CHECK TO MAKE SURE THE TOTAL FOR YOUR ACTIVITY ESTIMATES EQUALS THE TOTAL NUMBER OF MINUTES THE CLASS MEETS PER WEEK.)**

(a) Practicing specific vocational skills in a lab, shop, or work station (e.g., typing, welding, adjusting brakes) _____ min.

(b) Learning via audiovisual materials (movies, videotapes) _____ min.

(c) Watching demonstrations (by you, other students, etc.) of specific job skills/tasks _____ min.

(d) Listening to lectures or other class presentations and class discussions _____ min.

(e) Applying math skills to practical problems (e.g., in workbooks) _____ min.

(f) Reading course-related materials in books, manuals, or workbooks and/or writing answers in workbooks, worksheets, etc. _____ min.

(g) Completing tests, quizzes, or other evaluation exercises _____ min.

(h) Writing essays, themes, business letters, etc. _____ min.

(i) Speaking, making presentations, etc. _____ min.

(j) Other (Specify: _____) _____ min.

(k) TOTAL NUMBER OF MINUTES CLASS MEETS PER WEEK = _____ min.

40. In the classes you teach, about what percentage of the students are . . .

(a) Females? _____%
(b) Males? _____%
} TOTAL = 100%

(c) White? _____%
(d) Black? _____%
(e) Hispanic? _____%
(f) Other minorities? _____%
} TOTAL = 100%

(g) Handicapped? _____%

(h) Limited English Proficient? (LEP/Bilingual) _____%

(i) Economically disadvantaged? _____%

(j) Single parents? _____%

41. For what percentage of your handicapped students have you . . . .

(a) . . . reviewed an IEP? _____% (b) . . . helped prepare an IEP? _____%

42. Do you teach vocational courses?

[1] Yes (Go to Question 43) [2] No (Please complete items 73 to 76 on the last two pages of the questionnaire.)

43. Approximately what percentage of the students who enter the vocational program in which you teach drop out before they finish?

(a)_____% drop out of the program, but not out of school

(b)_____% drop out of the program and out of school

44. Are any of the students in the vocational program in which you teach dropouts who have returned to school (either on their own or through the auspices of JTPA or some other program)?

[1] No

[2] Yes, about _____% of our students

45. Rank the following goals in terms of the emphasis given to them in your vocational program area. Rank the most important goal as "1," the second most important as "2," and so on through "8" for the least important. **(WRITE IN YOUR RANKS. DO NOT DUPLICATE RANKINGS.)**

(a) To place students in jobs related to their training when they leave high school _____

(b) To provide students with the competencies needed to secure jobs (e.g., job search skills, interviewing) _____

(c) To place students in jobs (regardless of their training relatedness) when they leave high school _____

(d) To enhance students' awareness of the various jobs for which they could prepare _____

(e) To provide opportunities for students to explore various occupational areas _____

(f) To help students develop a strong work ethic (e.g., sense of industriousness and responsibility) _____

(g) To enhance and reinforce students' basic skills (e.g., basic math, reading) _____

(h) To promote access and equity for students _____

46. Is there a school-sponsored job placement service available to students in this school?

[1] Yes, the service is available to all students ⟶ **Go to Item 47**
[2] Yes, the service is available for vocational students ⟶ **Go to Item 47**
[3] No ⟶ **Go to Item 48**

47. Which of the following kinds of services are provided by the school sponsored job placement service available to students in your school?

(a) Keeping current job and placement information for students to read and use	[1] Yes	[2] No
(b) Finding summer jobs for students	[1] Yes	[2] No
(c) Finding part-time non-COOP jobs for students during the school year	[1] Yes	[2] No
(d) Finding part-time COOP jobs for students during the school year	[1] Yes	[2] No
(e) Finding jobs for students who are about to graduate	[1] Yes	[2] No
(f) Finding employers who are willing to provide work stations where students can engage in career exploration activities	[1] Yes	[2] No

48. Generally, do more students apply for entry into the vocational program in which you teach than there are openings in that program?

[1] No
[2] Yes, but only a few more
[3] Yes, up to two times more
[4] Yes, over two times more

49. Which of the following best describes the advisory group arrangements for the vocational program area in which you teach?

[1] No advisory group.

[2] One general advisory group (all vocational program areas) for all schools in the entire district system.

[3] One general advisory group (all vocational program areas) for this school only.

[4] A program-specific advisory group (for the program you teach) for all schools in the entire district system.

[5] A program-specific advisory group (for the program you teach) for this school only.

50. Use the scale below to indicate the extent to which each of the following sources is used to determine the goals, content, and operations of the vocational program in which you teach.

	None	____	____	____	A Great Deal
(a) Your State's plan for vocational education	[1]	[2]	[3]	[4]	[5]
(b) Your State's employer plan	[1]	[2]	[3]	[4]	[5]
(c) State occupational information coordinating committee	[1]	[2]	[3]	[4]	[5]
(d) State employment services	[1]	[2]	[3]	[4]	[5]
(e) Technical advisory group or committee	[1]	[2]	[3]	[4]	[5]
(f) Surveys of local employers	[1]	[2]	[3]	[4]	[5]
(g) Local occupational publication	[1]	[2]	[3]	[4]	[5]

51. Which of the following instructional materials/resources would you use if you were revising, up-dating, or up-grading the vocational program in which you teach?

(a) State instructional materials laboratory	[1] Yes	[2] No
(b) Curriculum coordination center for your region	[1] Yes	[2] No
(c) Educational publishers (V-TECS, AAVIM, CIMC, NCRVE, etc.)	[1] Yes	[2] No
(d) Commercial publishers (i.e., textbook and workbook publishers, test publishers	[1] Yes	[2] No
(e) Research and development agencies (e.g., State, RCU, SWRL, NCRVE, etc.)	[1] Yes	[2] No
(f) Local teacher-made materials (your own or someone elses)	[1] Yes	[2] No

52. What is the dollar value of the equipment/supplies <u>donated</u> over the last three years <u>by the local business community</u> to the vocational program in which you teach?

[1] None - $0
[2] $1 to $2,000
[3] $2,001 to $5,000
[4] $5,001 to $10,000
[5] $10,000 to $20,000
[6] $Over $20,000

53. Which of the following competency-based strategies are used in the vocational program area in which you teach?

(a) Our particular program is not competency-based and we do not use these competency-based strategies	[1] Yes	[2] No
(b) Progress charts	[1] Yes	[2] No
(c) Mastery charts	[1] Yes	[2] No
(d) Computer recording and feedback	[1] Yes	[2] No
(e) Standardized written tests	[1] Yes	[2] No
(f) Standardized skills performance tests	[1] Yes	[2] No
(g) Teacher constructed written tests	[1] Yes	[2] No
(h) Teacher constructed skills performance tests	[1] Yes	[2] No
(i) Informal teacher judgments	[1] Yes	[2] No
(j) Judgments or ratings by employers	[1] Yes	[2] No
(k) Other (Specify: _____)	[1] Yes	[2] No

54. Does your State require vocational graduates in the following areas to take competency tests to demonstrate their proficiency?

(a) Cosmetology	[1] Yes	[2] No
(b) Health occupations	[1] Yes	[2] No
(c) Aviation	[1] Yes	[2] No
(d) Plumbing	[1] Yes	[2] No
(e) Other (Specify: _____)	[1] Yes	[2] No

55. Does your school have cooperative education coordinators?

[1] No
[2] Yes, one
[3] Yes, two
[4] Yes, three
[5] Yes, four to six
[6] Yes, more than six

56. Are vocational teachers (who are not co-op coordinators) given released time from school to visit local employers?

[1] No ⟶ **Go to Item 58**
[2] Yes, one or two teachers
[3] Yes, three to five teachers
[4] Yes, over five teachers

57. On the average, about how many hours of released time from school is each vocational teacher (other than co-op coordinators) given per year to visit employers?

[1] None, teachers not given released time
[2] One to five hours
[3] Six to ten hours
[4] Eleven to twenty hours
[5] Twenty-one to forty hours
[6] Over forty hours

58. Are any of the following kinds of computer training provided in the vocational program in which you teach?

(a) Microcomputer operations	[1] Yes	[2] No
(b) Mainframe computer operations	[1] Yes	[2] No
(c) Computer programming	[1] Yes	[2] No
(d) Computer assisted design	[1] Yes	[2] No
(e) Computer controlled machines (e.g., lathes, mills)	[1] Yes	[2] No
(f) Computer based word processing	[1] Yes	[2] No

59. Are students in the vocational program in which you teach required to complete a work-study experience or internship in business/industry as part of their training?

[1] No
[2] Yes, up to two weeks
[3] Yes, three to six weeks
[4] Yes, six to twelve weeks
[5] Yes, thirteen to twenty-four weeks
[6] Yes, over twenty-four weeks

60. Do the employers who supervise the work experiences of cooperative education students in the program area in which you teach influence the grades those students receive?

[1] No, our program is not part of cooperative education
[2] No
[3] Yes, employers recommend grades to the coordinator(s)
[4] Yes, employers assign work experience grades
[5] Yes, employers and coordinators jointly agree and assign students' grades

61. To what extent do representatives of business, industry, and labor influence the following aspects of the vocational program you teach?

	Very Little Influence	____	____	____	Considerable Influence
(a) Determining curriculum goals and objectives	[1]	[2]	[3]	[4]	[5]
(b) Determining curriculum content and operations	[1]	[2]	[3]	[4]	[5]
(c) Assessing relevance and currentness of curriculum	[1]	[2]	[3]	[4]	[5]
(d) Recommending programs to be offered or deleted	[1]	[2]	[3]	[4]	[5]
(e) Providing/Developing learning or training sites (e.g., co-op)	[1]	[2]	[3]	[4]	[5]
(f) Identifying changes needed in training due to technological advances	[1]	[2]	[3]	[4]	[5]
(g) Recommending equipment and supplies	[1]	[2]	[3]	[4]	[5]
(h) Providing equipment and supplies	[1]	[2]	[3]	[4]	[5]
(i) Affirmative action concerns	[1]	[2]	[3]	[4]	[5]

62. During the past three years, have personnel (including yourself) in the vocational program area in which you teach . . .

	No	Yes, Once	Yes, Twice	Yes, Three Times
(a) systematically conducted interviews of employers to determine their satisfaction with employees who were former students in your program?	[1]	[2]	[3]	[4]
(b) systematically conducted interviews of former students in your program to determine their satisfaction with the training they received?	[1]	[2]	[3]	[4]
(c) systematically developed learning/training sites (e.g., coop, work-study, career exploration) in your community?	[1]	[2]	[3]	[4]
(d) interacted with basic skills specialist (e.g., in reading or math) to improve the basic skills-related portions of your course(s)?	[1]	[2]	[3]	[4]

63. Rank the degree of responsibility each of the following parties has for finding training-related jobs for students in your specialty area. This question refers to the first job students have after leaving high school. Place a "1" beside the party who is the most responsible, a "2" beside the party who is the second most responsible, and so on through "7" for the party who is the least responsible. **(WRITE IN YOUR RANKS. DO NOT DUPLICATE RANKINGS.)**

(a) Administrative staff _____
(b) Guidance staff _____
(c) Myself _____
(d) Other teacher(s) in the school _____
(e) Public employment service _____
(f) School job placement service or similar school-related service group _____
(g) Students _____

64. <u>During a school year</u> about how many class hours do you devote specifically to helping students . . .

	HOURS SPENT:				
	None	1-5	6-10	11-20	Over 20
(a) . . . learn how to find a job (e.g., completing a job application, preparing a resume, practicing job interviewing)	[1]	[2]	[3]	[4]	[5]
(b) . . . learn about employer expectations for behavior on the job?	[1]	[2]	[3]	[4]	[5]
(c) . . . engage in career planning and occupational exploration experiences?	[1]	[2]	[3]	[4]	[5]

65. In general, how current and up-to-date are the equipment and materials available in the vocational program in which you teach?

[1] Very current, up-to-date
[2] Current, but not the latest
[3] Somewhat dated, not outmoded
[4] Very dated, outmoded

66. Are <u>individualized</u> teaching/learning activities and experiences an integral part of the vocational program in which you teach?

[1] No
[2] Yes, when dealing with learning basic concepts/theory
[3] Yes, when working in shop/lab on job skill development/practice
[4] Yes, all segments of program

67. Are any of the following kinds of special services made available to the students in your vocational program who are having problems?

(a) Remedial instruction - basic reading	[1] Yes	[2] No
(b) Remedial instruction - basic math	[1] Yes	[2] No
(c) Programs designed to increase parent awareness and involvement	[1] Yes	[2] No
(d) Life skills instruction (e.g., responsible social and sexual behavior)	[1] Yes	[2] No
(e) More individualized and intensive counseling and follow-through	[1] Yes	[2] No
(f) Special tutorial and/or related types of assistance (e.g., peer tutoring, special classes)	[1] Yes	[2] No
(g) Special or adaptive equipment and material available in vo-ed programs for handicapped and disadvantaged	[1] Yes	[2] No
(h) Referral services, i.e., psychologist, counseling, guidance, etc.	[1] Yes	[2] No

68. Which of the following are considerations for admission of students to the vocational program in which you teach? **(Check all that apply.)**

(a) [1] Grade point average
(b) [2] Personal interview
(c) [3] Career objectives
(d) [4] Any student who wishes may enroll in the vocational program
(e) [5] Other (Specify: _____)

69. During the last 2 years, have you worked at a nonteaching job that helped you update or improve your skills in the area(s) where you train students to work? **(DO NOT INCLUDE TIME SPENT GOING TO SCHOOL.)**

[1] No
[2] Yes, for a total of a work month or less
[3] Yes, for a total of three work months
[4] Yes, for a total of three to six work months
[5] Yes, for more than six months

70. Were you aware of the National Center for Research in Vocational Education (NCRVE) before your school was selected for this study?

[1] Yes (Explain: _____)
[2] No ——> **Go to Item 73**

71. Have you ever purchased any National Center (NCRVE) products?

[1] Yes --- How many? _____
[2] No ——> **Go to Item 73**

72. Did the National center product(s) you purchased help you solve a problem or bring about a change in your classes or program?

[1] Yes
[2] No

73. During an average week about how many hours do you have your students spend working on tasks/activities that involve problem solving, evaluation, synthesis, and other higher-order cognitive skills?

None	Less than 1 hour	1 to 2 hours	2+ to 3 hours	3+ to 5 hours	5+ to 10 hours	Over 10 hours
[1]	[2]	[3]	[4]	[5]	[6]	[7]

74. Of the students you have taught over the last 5 years, about what percentage . . .

(a) . . . entered the military? _____%
(b) . . . enrolled in a 4-year college or university? _____%
(c) . . . enrolled in a 2-year college or technical school? _____%
(d) . . . entered the labor force full-time without attending a postsecondary institution? _____%

75. Within the last three years were you required to take a state-mandated competency examination?

[1] No
[2] Yes, I scored in the first (lowest) quartile
[3] Yes, I scored in the second quartile
[4] Yes, I scored in the third quartile
[5] Yes, I scored in the fourth (highest) quantile

PREFERENCES

76. People like to do things in different ways. Below are four sets of statements that describe some preferences people have.

Each set of statements is in a box. For each box, decide which column of statements best describes you. Then, mark one of the squares in the bottom half of the box to let us know how you feel one column or the other suits you.

COLUMN A	COLUMN B
I want to know only as much as I need to know to get the job or task finished.	I want to know everything about a new job or task.
I like to plan my work and then follow that plan	I like dealing with changes.
I like to finish things; I don't like to leave "loose ends."	I'm not bothered if all the "loose ends" aren't taken care of.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I care about people.	I may seem to be hard headed.
I enjoy pleasing other people.	I sometimes hurt peoples' feelings without knowing it.
I often make decisions based on other peoples' likes and wishes.	I tend to ignore other peoples' wishes.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I like rules.	I dislike doing the same thing over and over.
I like to work at a steady pace.	I like to work in bursts of energy.
I am patient when I deal with complicated details.	I get impatient with complicated details.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I like variety and action when I work.	I prefer quiet when I work so I can concentrate.
I like to work with other people.	I am happiest when I work by myself.
I can talk easily with other people.	I sometimes have a hard time talking with other people.
I often act quickly, sometimes without thinking.	I like to think about what I'm going to do before I do it.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

<--- PLEASE STAPLE OR TAPE HERE.

TO: School Office Staff

PLEASE HOLD these materials for pickup by -

Visitor - Field Site Representative
The National Center for Research in
Vocational Education
The Ohio State University

TEACHER INTERVIEW FORM

Interviewer _____ Class _____

School _____ Teacher's Name _____

School Location _____ Date _____ Time _____

1. What materials, equipment, or other program components you use in your classes are you most proud of? Describe.

2. What kind(s) of materials, equipment, or other program components do you feel you need most for your classes (program)?

3. How well motivated to learn are the students in your classes? On what evidence do you base that perception?

4. What technique(s) do you use to enhance and reinforce your students' basic skills (e.g., reading, math, speaking skills) in your classes? Describe.

5. What successes have you had with the techniques, procedures, or materials you noted in relation to the preceding question?

6. What kinds of supportive services are available to you for helping you work with LEP (bilingual), handicapped, and other at-risk students? How have you used those services?

7. Do you feel your students are adequately informed about the career opportunities available to them in your community? What do you think should/could be done to improve that situation?

8. Does your school engage in follow-up/follow-through activities related to your students?

9. What strategies or techniques have you and your school developed/implemented in regard to placing LEP, handicapped, and other at-risk students in appropriate jobs?

10. As part of your job-related role, do you have regular contact with different businesses/industries in your community? Explain.

11. Do you have any continuing, direct contact with a postsecondary institution other than as a student (e.g., teach courses at a technical school on a part-time basis, serve on a trade-related advisory committee). Please describe the nature of that involvement.

12. Are you directly involved in any community-based economic development activities (e.g., a member of a chamber of commerce committee to attract new business to your community)?

13. Should vocational students receive academic credit for the basic skills they learn in vocational classes (e.g., mathematics learned in electricity courses, English learned in business English)? Why or Why Not?

CONFIDENTIAL - FOR RESEARCH PURPOSES ONLY

YOUR PARTICIPATION IN THIS STUDY IS VOLUNTARY

PRINCIPALS

Understanding the Dyanmics of Secondary Vocational Classrooms

Conducted by:

The National Center for Research in Vocational Education
The Ohio State University

Sponsored by:

Office of Vocational and Adult Education
U.S. Department of Education

In cooperation with your State Department of Education

Why we need your help....

Your state and your school are helping in a national study on vocational education. You have been selected as a representative of your school to help with that study. Your answers to the questions that follow are very important. They will help provide a basis for more accurately describing the vocational experiences offered in our secondary schools and should also provide support for future improvements in vocational education.

How you can help....

On the pages that follow you will find a number of general, background questions regarding your school, the kinds of inservice training provided to your teachers and characteristics of the courses your students must complete. These questions can be answered quickly by placing an "X" or a check mark "✓" in the "[3]" next to your answer or by filling in the blank spaces provided. (See the examples shown in the box below.) Please answer all the questions as accurately as possible. Please use a pen to mark your responses.

EXAMPLE 1:

- Nationally, about what percentage of our high school students (grades 9-12) drop out each year?

  [1] Between 4% and 8%
  [2] Slightly less than 15%
  [3] ✓ About 28%
  [4] Over 50%

EXAMPLE 2:

- About what percentage of the students (grades 9-12) in your school are:

  (a) Females? 51 %
  (b) Males? 49 %

When you have completed your questionnaire, (a) fold it in half, (b) staple or tape it together at the point shown below, and (c) return it to the National Center staff member who is visiting your school. Again, we want to note that your participation in this study is voluntary. In addition, the information you provide will be treated in the strictest confidence; no data will be associated with the name of an individual or school in any project-related reports or other form of information dissemination. All data will be aggregated across individuals, schools, and states and described only at the regional and national levels.

WOULD YOU LIKE A SUMMARY REPORT OF OUR STUDY? [ ] YES [ ] NO

Name _____ School _____

1. Type of area in which your school is located?

   [1] Rural
   [2] Suburban
   [3] Urban

2. Approximately how large is the geographical area served by your school?

   City _____ sq. miles
   or
   County _____ sq. miles

3. What is the approximate population of the area served by your school?

   _____ people

4. Approximately what percentage of the population in the area served by your school is--

   - American Indian or Alaskan Native _____%
   - Asian American or Pacific Islander? _____%
   - Black, not of Hispanic origin? _____%
   - Hispanic? _____%
   - White, not of Hispanic origin? _____%
   - Other (Specify: _____ _____%
     _____)

   TOTAL = 100%

5. Approximately what percentage of the population in the area served by your school is economically disadvantaged?

   _____%

6. How would you rate the quality of the vocational facilities in your school?

   [1] Excellent
   [2] Very good
   [3] Average
   [4] Below average
   [5] Poor
   [6] Not applicable

7. From what county is the largest number of students in your school drawn?

   _____

8. From what other counties are your students drawn?

   (a) _____
   (b) _____
   (c) _____
   (d) _____
   (e) _____
   (f) _____
   (g) _____
   (h) _____
   (i) _____
   (j) _____
   (k) _____
   (l) _____

9. In what grade level(s) are students served in your school?

   [1] 12th grade only
   [2] 11th and 12th grades only
   [3] 10th through 12th grades
   [4] 9th through 12th grades
   [5] Other (Describe: _____)

10. What was the size of your school's student body during the--

    - 1984-85 school year? ____ students
    - 1985-86 school year? ____ students

11. Approximately how old is your school's physical plant?

    [1] 1 to 2 years old
    [2] 3 to five years old
    [3] 5 to 10 years old
    [4] 11 to 20 years old

12. What was the annual per pupil cost for all students served by your school during the 1984-85 school year?

$_____ per student

13. What was the annual per pupil cost for your school's vocational program during the 1984-85 school year?

$_____ per student

14. Which of the following types of programs.....

(a) ...are actually taught in your school? **(Check all that apply.)**

[ ] Academic - college preparatory program
[ ] General program (neither academic nor vocational)
[ ] Vocational - agriculture
[ ] Vocational - business and office
[ ] Vocational - marketing and distributive education
[ ] Vocational - health
[ ] Vocational - occupational home economics
[ ] Vocational - trade and industrial (including technical)
[ ] Consumer and homemaking education
[ ] Industrial arts

(b) ...may your students participate in (including programs your students have access to--perhaps in another school--as well as your own school)? **(Check all that apply.)**

[ ] Academic - college preparatory program
[ ] General program (neither academic nor vocational)
[ ] Vocational - agriculture
[ ] Vocational - business and office
[ ] Vocational - marketing and distributive education
[ ] Vocational - health
[ ] Vocational - occupational home economics
[ ] Vocational - trade and industrial (including technical)
[ ] Consumer and homemaking education
[ ] Industrial arts

15. Approximately what percentage of the students enrolled in your school are classified as being in the--

_____% Academic program?
_____% General program?
_____% Vocational - agricultural program?
_____% Vocational - business and office program?
_____% Vocational - marketing and distributive education?
_____% Vocational - health program?
_____% Vocational - occupational home economics program?
_____% Vocational - trade and industrial program (including technical)

_____
100% - TOTAL

16. On the average, what percentage of your students . . . . . .

(a) ...receive public, schoolwide recognition in assemblies, hall displays, PA announcements, etc. for their achievements or accomplishments?

_____% per month

(b) ...are removed from classroom instruction for academic or disciplinary reasons?

_____% per month

17. Over the past year, what percentage of your students were absent during a typical school day?

_____% per day

18. Does your school have special admission requirements (e.g., minimum reading level)?

[1] No
[2] Yes (Explain: _____
_____)

19. Selected student body characteristics

(a) Gender - _____% Females
_____% Males

(b) Ethnicity/ Race
_____% Native American or Alaskan Native
_____% Asian American or Pacific Islander
_____% Black, not of Hispanic origin
_____% Hispanic
_____% White, not of Hispanic origin
_____% Other (Specify: _____ _____)

TOTAL = 100%

(c) Handicapped - _____%

(d) Limited English proficiency - _____%

(e) Estimated family income -

_____% above $25,000
_____% between $15,000 and $25,000
_____% between $14,999 and $10,000
_____% below $10,000

100% = TOTAL

(f) Students who enter, but drop out prior to graduation (do not transfer) - _____%

(g) Students who are also single parents - _____%

(h) Adults who are being trained/ retrained - _____%

20. How many professional personnel work in your school?

_____ Classroom teachers (non-vocational)
_____ Special Education Teachers
_____ Vocational teachers (1/2 time or more)
_____ Counselors
_____ Remedial specialists
_____ Others (Specify: _____ _____)

21. Of the handicapped students in your school, what percentage are--

(a) physically handicapped? _____%
(b) mild/moderately mentally impaired _____%
(c) both physically and mentally impaired _____%
(d) emotionally/ socially impaired _____%

TOTAL = 100%

22. Approximately what percentage of your school's handicapped students are enrolled in the--

(a) academic program? _____%
(b) general program ? _____%
(c) vocational program? _____%

TOTAL = 100%

23. How are the students in your school classified as limited English proficient (LEP)?

(Describe: _____
_____
_____
_____
_____)

24. Approximately what percentage of your school's LEP students are enrolled in the--

(a) academic program? _____%
(b) general program? _____%
(c) vocational program? _____%
(d) handicapped program? _____%
(e) disadvantaged program? _____%

25. Over the last three years, what has been your school's average dropout rate (excluding transfers) at the ...

(a) 9th grade level? _____%
(b) 10th grade level? _____%
(c) 11th grade level? _____%
(d) 12th grade level? _____%

26. How would you rate the academic ability of the students who normally enter your school?

[1] Much above the national norm
[2] Somewhat above the national norm
[3] At the national norm
[4] Somewhat below the national norm
[5] Much below the national norm

27. In your high school, what degree of importance is attached to each of the following goals?

	RESPONSES (Check one per goal)			
	Very Important	Important	Not too Important	Not at all Important
(a) Prepare students to be good citizens	[1]	[2]	[3]	[4]
(b) Teach basic skills	[1]	[2]	[3]	[4]
(c) Help students make realistic plans for after high school	[1]	[2]	[3]	[4]
(d) Develop students' abilities to solve problems and think critically	[1]	[2]	[3]	[4]
(e) Prepare students to be competent consumers	[1]	[2]	[3]	[4]
(f) Prepare students for further schooling - college, junior college or technical school	[1]	[2]	[3]	[4]
(g) Provide in-school training for specific occupations	[1]	[2]	[3]	[4]
(h) Give students a broad, general educational background	[1]	[2]	[3]	[4]
(i) Place students in jobs as they leave school	[1]	[2]	[3]	[4]

28. Are <u>all</u> students in your school normally required to pass a minimum competency exam before they can progress **(Check all that apply)** ...

(a) ...into 9th grade? [ ]
(b) ...into 10th grade? [ ]
(c) ...into 11th grade? [ ]
(d) ...into 12th grade? [ ]

29. Do students in your school have to meet special graduation requirements (e.g., alternative diplomas, minimum competency or performance test scores)?

[1] No
[2] Yes (Explain: _____)

30. Are the graduation requirements for your school's students more stringent (stiffer) than your state's requirements?

[1] No, less stringent
[2] No, the same
[3] Yes (Explain: _____ _____)

31. Have the high school graduation requirements affecting your school's students changed recently?

[1] Yes, within the last year
[2] Yes, within the last two years
[3] Yes, three or more years ago
[4] No ——————→ **Go to item 35**

32. If the graduation requirements affecting your students have changed recently, have they become--

[1] More stringent? (Describe: _____ _____)
[2] Less stringent? (Describe: _____ _____)

33. Have the indicated changes in graduation requirements affected students' participation in your vocational program(s)?

[1] Yes, helped increase enrollments
[2] Yes, helped decrease enrollments
[3] No, have not affected enrollments

34. Have the indicated changes in graduation requirements affected the dropout rate among the students your school serves?

[1] Yes, increased the dropout rate
[2] Yes, decreased the dropout rate
[3] No, did not affect the dropout rate or can't say

35. In order to graduate from high school, how many Carnegie credits must each of your students earn in each of the following subject areas?

(a) English/Language Arts _____ credits
(b) Mathematics _____ credits
(c) Science _____ credits
(d) History/Social Studies _____ credits
(e) Foreign Language _____ credits
(f) Health/Physical Education _____ credits
(g) Music/Fine Arts _____ credits
(h) Computer Literacy/ Programming _____ credits
(i) Vocational education _____ credits
(j) Other, including electives (Specify: _____ _____) _____ credits
(k) Total number of Carnegie credits required _____ credits

36. In your opinion, how much actual influence do the following people or organizations have on establishing the inservice program/training (e.g., goals, objectives, content) and determining the approach(es) used in delivering that training to your teachers?

	(a) ESTABLISHING THE CURRICULUM				(b) DETERMINING INSTRUCTIONAL APPROACH(ES)			
	(1) None	(2)	(3)	(4)	(1) None	(2)	(3)	(4)
PEOPLE/ORGANIZATIONS	(Not Applicable)			A Great Deal	(Not Applicable)			A Great Deal
• Principal or school head (yourself)	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Teachers at this school	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Parents	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Students	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• School board or governing board	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Teachers' unions or associations	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Business and industry representatives	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• JTPA and similar agencies	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• State Department of Vocational Education	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Vocational director or supervisor	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Central office administrators	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
• Postsecondary Institutions	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]

37. On the average, how many Carnegie credits in vocational classes are earned by students from your school who graduate via the vocational program?

_____ credits

38. Approximately what percentage of your students were enrolled in cooperative vocational programs (co-op) in 1984-85?

_____%

39. On a per teacher basis, approximately how much did your school spend on inservice and other professional development activities during the last year?

$_____ per teacher

40. Approximately how many postsecondary institutions (e.g., colleges, universities, technical schools) sent representatives to talk to students in your school during the 1984-85 school year? **(Check one.)**

[1] None
[2] One or two
[3] Three to five
[4] Six to ten
[5] Eleven to twenty
[6] Over twenty

41. Does your school have an arrangement with a postsecondary institution that allows credits earned in your school to count toward a postsecondary degree requirement?

[1] No
[2] Yes (Describe: _____
_____)

42. Approximately what percentage of the students in your school received credit for work-study experiences during the 1984-85 school year?

_____%

43. On the average, how many work-study (Carnegie) credits did the students alluded to in Question 42 actually earn?

_____ credits

44. Do any of the vocational education courses students take in your school count toward their graduation requirements in other areas (e.g., the general or academic curricula)?

[1] No
[2] Yes (Which requirements? _____
_____)

45. Does your school provide facilities or teachers for any of the following? **(Check all that apply)**

[ ] Students studying for the GED
[ ] Postsecondary courses leading to a degree
[ ] Adult classes (not leading to a degree)
[ ] JTPA, apprenticeship or other programs sponsored by various community-based organizations
[ ] Special courses or programs for business/industry in the area

46. Is there a school-sponsored job placement service available to the students in your school? **(Check one.)**

[1] Yes, and it is for all students
[2] Yes, but it is available only for vocational students
[3] No

47. Do any of your students attend courses at a postsecondary institution?

[1] Yes, and those courses count toward our graduation requirements
[2] Yes, but those courses do not count toward our graduation requirements
[3] No

48. What linkages exist between your school and JTPA-sponsored agencies in your area?

[1] None
[2] One or more (Describe: _____ _____)

49. Is your school formally represented in community-based economic development activities(e.g., chamber of commerce committees)?

[1] No
[2] Yes (Explain: _____ _____)

50. Does your school provide teaching personnel, administrative support services, etc. for vocational education classes/programs off campus (e.g., in a business or industry or a penal institution)?

[1] No
[2] Yes (Describe: _____ _____)

51. Does your school engage in follow-up/follow-through activities related to the students you serve?

[1] No ——> **Go to item 53**
[2] Yes, but they are limited/informal
[3] Yes, and they are quite expensive

52. Briefly describe the followup/follow-through activities undertaken by your school.

_____
_____
_____

53. How much experience do you feel your students receive in problem solving, evaluation, synthesis, and other types of higher-order cognitive skills in their ....

(a) ...Vocational Classes?

Can't Say	None	Little	...	A Lot	Don't Offer Such Classes
[1]	[2]	[3]	[4]	[5]	[6]

(b) ...Academic, <u>College Preparatory</u> Classes?

Can't Say	None	Little	...	A Lot	Don't Offer Such Classes
[1]	[2]	[3]	[4]	[5]	[6]

(c) ...Non-Vocational, Non-College Preparatory Classes?

Can't Say	None	Little	...	A Lot	Don't Offer Such Classes
[1]	[2]	[3]	[4]	[5]	[6]

54. Were you aware of the National Center for Research in Vocational Education (NCRVE) before your school was selected for this study?

[1] Yes (Explain: _____ _____)
[2] No

55. Have you ever purchased any National Center (NCRVE) products?

[1] Yes ——> How many? _____
[2] No ——> You have completed the questionnaire

56. Did the National Center product(s) you purchased help you solve a problem or bring about a change in your school or program?

[1] Yes
[2] No

PRINCIPAL INTERVIEW FORM

Interviewer _____ Date _____ Time _____

School _____ School Location _____

Adminstrator's Name _____

1. As part of your administrative responsibilities, do you have regular contacts with different businesses/industries in your community? If yes, please explain.

2. Do you or others in your school have continuing, direct contacts with one or more postsecondary institutions that serve your community--other than as a student (e.g., teach courses at such an institution on a part-time basis, serve on advisory committees)?

3a. Have the certification standards for your teachers changed during the last two years (e.g., a competency test was initiated, additional course requirements were identified)?

3b. Have the changes you noted in the preceding item had a major impact upon your teachers? Please explain.

4. The dropout problem is an area of increasing concern at the national level. Do you have any special programs in place at your school for identifying dropout-prone students, working with those students, tracking students who do drop out, or attracting dropouts back to school after they have left? Describe.

5. Another major problem at the national level concerns students' basic skills proficiencies. Do you have a special program in place at your school for helping students who are found to be weak in this area? Who are the people responsible for overseeing/implementing that program? How successful do you feel that program has been? Why do you feel it has been successful/unsuccessful?

6. How are the in-service needs of teachers and other professional personnel in your school determined?

7. Who in your school has primary responsibility for the job placement of students, particularly vocational students, once they complete their high school graduation requirements?

8. Does your school have some type of student follow-up/follow-through system in operation? Who is responsible for that system? Does it include a component for tracking students who drop out of high school? Please briefly describe that system.

9. Does your school have a system in place for working with LEP (bilingual) and handicapped students? Please describe that system. Do you feel your school's system is effective? Efficient?.

TO: _____

FROM: _____

Visitor - Field Site Representative
The National Center for Research in
Vocational Education
The Ohio State University

(Please return your completed material to the School Office by the end of the school day on Thursday. Thank you.)

CONFIDENTIAL - FOR RESEARCH PURPOSES ONLY

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COUNSELORS

Understanding the Dynamics of Secondary Vocational Classrooms

Conducted by:

The National Center for Research in Vocational Education
The Ohio State University

Sponsored by:

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U.S. Department of Education

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EXAMPLE 1:

- Nationally, about what percentage of our high school students (grades 9-12) drop out each year?

  [1] Between 4% and 8%
  [2] Slightly less than 15%
  [3] ✓ About 28%
  [4] Over 50%

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- About what percentage of the students (grades 9-12) in your school are:

  (a) Females? 51 %
  (b) Males? 49 %

When you have completed your questionnaire, (a) fold it in half, (b) staple or tape it together at the point shown on the back page, and (c) return it to your school office, where it will be turned over to the National Center staff member who is visiting your school. Again, we want to note that your participation in this study is voluntary. In addition, the information you provide will be treated in the strictest confidence; no data will be associated with the name of an individual or school in any projected-related reports or other form of information dissemination. All data will be aggregated across individuals, schools, and states and described only at the regional and national levels.

WOULD YOU LIKE A SUMMARY REPORT OF OUR STUDY? ☐ YES ☐ NO

Name _____ Title _____
School Name _____

1. Rank the following goals in terms of the degree to which they are emphasized by the guidance program in your school. **(WRITE IN THE RANKS--5 BEING HIGHEST. DO NOT DUPLICATE RANKINGS.)**

   (a) Help students plan and prepare for postsecondary schooling ____
   (b) Help students with their personal growth and development ____
   (c) Help students plan and prepare for their work roles after high school ____
   (d) Help students with their academic achievement in high school ____
   (e) Help students select and schedule courses ____

2. During the school year, about what percentage of the time of your school's guidance staff is spent delivering each of the guidance services listed below? **(WRITE IN A PERCENT FOR EACH SERVICE LISTED. YOUR TOTAL SHOULD BE 100%.)**

   (a) Preparing IEPs for special populations ____%
   (b) Postsecondary education admissions and selection ____%
   (c) Occupational choice and career planning ____%
   (d) Employability skill development ____%
   (e) Job placement activities ____%
   (f) Follow-up, follow-through activities ____%
   (g) Students' attendance, discipline, and other school and personnel problems ____%
   (h) Other (Specify: _____) ____%
   TOTAL = 100%

3. Does your school have a written plan for its career guidance program?

   [1] No, we do not have a specific career guidance program.
   [2] No, we have a career guidance program, but do not have a written plan for that program.
   } **Go to question #5**
   [3] Yes, we have a written plan for our career guidance program that was prepared about _____ years ago.

4. If you have a written plan for your career guidance program, which of the following elements are included in that plan? **(Check all that apply.)**

   [ ] Development of students' career awareness
   [ ] Career exploration
   [ ] Career decision-making experiences
   [ ] Provision of occupational information
   [ ] Employability skills
   [ ] Transferable skills
   [ ] Human relations/interpersonal skills
   [ ] Other (Specify: _____.)

5. Are you assigned to work with a specific group of students by grade level?

   [1] No
   [2] Yes, 9th graders
   [3] Yes, 10th graders
   [4] Yes, 11th graders
   [5] Yes, 12th graders
   [6] Yes, assigned to a class and stay with them through high school

6. Are you assigned to work with a specific group of students by curriculum or some other designator? **(Check all that apply.)**

   [1] No
   [2] Yes, academic or college bound
   [3] Yes, vocational
   [4] Yes, general
   [5] Yes, other (Specify: _____ _____)

7. Including this year, how many years of experience have you had as a counselor?

[1] Not yet a full year
[2] One to two years
[3] Three to four years
[4] Five to six years
[5] Seven to ten years
[6] Over ten years

8. What is the highest degree you hold?

[1] High school diploma
[2] Bachelor of Arts/Bachelor of Science
[3] Master's degree
[4] Educational Doctorate
[5] Doctorate other than education
[6] Other (Specify: _____)

9. Do you have a degree in guidance and counseling?

[1] Yes
[2] No

10. Approximately how many total hours of inservice and preservice training have you completed in each of the following general areas?

	ESTIMATED HOURS:				
	None	1-3	4-6	7-9	Over 10
(a) Working with and teaching gifted/talented students	[1]	[2]	[3]	[4]	[5]
(b) Working with and teaching the handicapped	[1]	[2]	[3]	[4]	[5]
(c) Working with and teaching Limited English Proficiency students (LEP/Bilingual)	[1]	[2]	[3]	[4]	[5]
(d) Working with and teaching disadvantaged and dropout-prone students	[1]	[2]	[3]	[4]	[5]
(e) Working with and teaching students in programs to address sex bias and sex stereotyping	[1]	[2]	[3]	[4]	[5]
(f) Working with and teaching basic skills in various subject areas	[1]	[2]	[3]	[4]	[5]
(g) Addressing the needs of single parents	[1]	[2]	[3]	[4]	[5]

11. How many professional staff in your school work full-time, half-time, and less than half-time in the guidance program? **(WRITE IN YOUR RESPONSES.)**

(a) Number of full-time professional guidance staff _____
(b) Number of half-time professional guidance staff _____
(c) Number of professional guidance staff who work less than half-time _____

12. What is the counselor-student ratio in your school?

_____ students per one counselor

13. If a student wants to see a counselor, about how long does he or she typically have to wait?

[1] No wait--can walk right in
[2] A few minutes to an hour
[3] A few hours
[4] A day or two
[5] Three days to a week
[6] Longer than a week

14. Over the course of a school year, how involved does your school's guidance/counseling staff get in regard to the following activities?

	Never	Infrequently	Occasionally but not Routinely	Routinely
(a) Hall duty, study hall, homeroom, lunchroom duty, bus duty, etc.	1	2	3	4
(b) Disciplining students (e.g., for the entire school)	1	2	3	4
(c) Nonguidance related administrative duties	1	2	3	4
(d) Teaching classes (nonguidance related)	1	2	3	4
(e) Teaching guidance related courses or units	1	2	3	4
(f) Planning for, administering, and interpreting tests	1	2	3	4
(g) Updating and obtaining information from records (e.g., permanent records for reports, planning)	1	2	3	4
(h) Individual counseling of students (not test related)	1	2	3	4
(i) Providing group guidance or counseling (not test related)	1	2	3	4
(j) Conferring with teachers or other school personnel regarding the guidance program	1	2	3	4
(k) Conferring with teachers about individual students	1	2	3	4
(l) Directing extracurricular activities	1	2	3	4
(m) Directing planned career guidance activities (e.g., career days, plant visits)	1	2	3	4
(n) Developing contacts with business and industry	1	2	3	4
(o) Meeting with recruiters from post-secondary institutions	1	2	3	4
(p) Preparing and monitoring IEPs	1	2	3	4
(q) Conferring with parents or parents-students about students' performance and/or plans	1	2	3	4
(r) Meeting with military recruiters	1	2	3	4
(s) Working with JTPA sponsored agencies and other community-based organizations	1	2	3	4

15. Is local job information routinely made available to students in your school?

[1] Yes ⟶ Go to Item 16
[2] No ⟶ Go to Item 17

16. Which of the following sources of information about local job opportunities does your school have available for student use?

(a) Job bank listings or reports from state employment service or department of labor, showing jobs available for local area (city or state) [1] Yes [2] No

(b) Postings of local newspaper employment advertisements [1] Yes [2] No

(c) Job openings called in by local employers [1] Yes [2] No

(d) List of contacts at local public or private employment agencies and training programs (e.g., JTPA) who can help students get jobs or job training [1] Yes [2] No

(e) Information from local government (city, county, state) civil service and employment service offices [1] Yes [2] No

(f) Information about local jobs from follow-ups of former students who work in the area [1] Yes [2] No

(g) Other (Specify: _____) [1] Yes [2] No

17. In a given school year, about what percentage of the students in your school receive instruction in the following? **(WRITE IN YOUR PERCENTS. GIVE YOUR BEST ESTIMATES. IF NONE, ENTER "0".)**

(a) Use of noncomputerized career information resources (i.e., bound resources, occupational briefs and kits, periodicals, series of books of individual occupations, lists of employers) _____%

(b) Use of computerized career information systems _____%

(c) Use of educational information resources (e.g., college catalogs, financial aid sources) _____%

18. Does your school provide occupational or career information to students in a language other than English?

[1] No
[2] Yes, Spanish
[3] Yes, another language (Specify: _____)

19. Does the guidance/counseling staff in your school administer basic skills tests (e.g., basic reading and math tests) to students?

[1] No
[2] Yes, only during their first year
[3] Yes, only during their last year
[4] Yes, more than once

20. Does your school's guidance/counseling staff maintain permanent records that include each student's basic skills test results (e.g., basic reading and math scores)?

[1] No
[2] Yes, but they are complete for only a few students
[3] Yes, but they are complete for only about half the students
[4] Yes, and they are complete for most students

21. About what percentage of the students in your school participate in the following activities between the time when they enter your school and leave it (e.g., graduate or drop out)? **(WRITE YOUR PERCENTS. IF UNSURE, GIVE YOUR BEST ESTIMATE. IF THE ACTIVITY IS NOT OFFERED, ENTER "0".)**

(a) School courses in career decision making _____%

(b) Occupational information units in subject-matter courses _____%

(c) Exploratory work experience programs (e.g., co-op, EBCE) _____%

(d) Career days/nights _____%

(e) Vocational education oriented assemblies and speakers in classes _____%

(f) Job site tours or visits (field trips) _____%

(g) Visits to 4-year postsecondary institutions _____%

(h) Visits to 2-year postsecondary institutions _____%

(i) Job shadowing (extended observations of a worker) _____%

(j) Simulations (e.g., Singer Vocational Evaluation System, SRA Job Experience Kits) _____%

(k) Testing and having tests interpreted for career planning purposes (e.g., interest inventories, vocational aptitude tests) _____%

(l) Individual counseling sessions _____%

(m) Group guidance/counseling sessions _____%

(n) Training in job seeking skills _____%

(o) Training in resume writing (including "career passports") _____%

(p) Use of noncomputerized career information resources _____%

(q) Use of computerized career information resources _____%

(r) Interscholastic/intramural sports _____%

22. During an <u>average work week</u>, approximately how many hours do you spend ...

	HOURS SPENT			
	0 to 1	1 to 3	4 to 8	Over 8
(a) ...counseling and working with limited English proficiency (LEP) students?	[1]	[2]	[3]	[4]
(b) ...counseling and working with students who are potential dropouts?	[1]	[2]	[3]	[4]
(c) ...counseling and working with students who have dropped out and want to or have returned to school?	[1]	[2]	[3]	[4]
(d) ...counseling, preparing IEPs, and working with handicapped students and their parents?	[1]	[2]	[3]	[4]
(e) ...counseling and working with single parents?	[1]	[2]	[3]	[4]
(f) ...counseling and working with students who are in nontraditional programs for their sex?	[1]	[2]	[3]	[4]
(g) ...counseling and working with adults and displaced workers who need retraining or additional training?	[1]	[2]	[3]	[4]

23. Does your school have a plan or procedures in place for identifying and working with dropout-prone students?

[1] No [2] Yes (Explain: _____)

24. About what percentage of the students in your school dropped out (do not include transfers) during the ...

...1984-85 School Year? _____%

...1985-86 School Year? _____%

25 How many of the students served by your school graduated from high school at the end of the ...

...1984-85 school year? _____ students

...1985-86 School Year? _____ students

26. Of the students served by your school who graduated, about what percentage ...

(a) ...entered the military? _____%

(b) ...enrolled in a 4-year college or university? _____%

(c) ...enrolled in a 2-year college or technical school? _____%

(d) entered the labor force full-time without attending a postsecondary institution? _____%

(e) Other (Specify: _____)? _____%

27. Does a mechanism exist for awarding your vocational students credit for basic skills learned in vocational courses (e.g., Business English is used to meet part of a student's overall English requirements for graduation)?

[1] No [2] Yes (Describe: _____)

28. Have the high school graduation requirements for the students served by your school changed in the last three years?

[1] No ⟶ Go to Question 30 [2] Yes

29. Have the changes in graduation requirements you noted in Question #28 influenced enrollments in your school's vocational education offerings?

[1] No [2] Yes, helped to increase enrollments [3] Yes, helped to decrease enrollments

30. Do you or anyone else in your school's guidance staff participate in community-wide economic development activities (e.g., chamber of commerce committees or other committees directed toward attracting new business/industry into your community)?

[1] No [2] Yes (Describe: _____)

31. Were you aware of the National Center for Research in Vocational Education (NCRVE) before your school was selected for this study?

[1] No [2] Yes

32. Have you ever purchased any National Center (NCRVE) products?

[1] No [2] Yes -- How many? _____

PLEASE STAPLE OR TAPE HERE.

TO: School Office Staff

PLEASE HOLD these materials for pickup by -

Visitor - Field Site Representative
The National Center for Research in
Vocational Education
The Ohio State University

PLEASE STAPLE OR TAPE HERE.

COUNSELOR INTERVIEW FORM

Interviewer _____ Date _____ Time _____

School _____ School Location _____

Counselor's Name _____

1. As part of your counseling responsibilities, do you have regular contacts with different businesses/industries in your community? Explain.

2. As part of your counseling responsibilities, do you engage in student-related follow-up/follow-through activities? Explain.

3. As part of your counseling responsibilities, do you have regular contacts with the postsecondary institutions that serve your community in a role other than as a student? Please describe those contacts.

4. How much emphasis in your guidance program is placed upon helping students in the transition from secondary into postsecondary training (e.g., into a technical school, community college, university)?

5. What changes are made in your guidance program to accomodate the unique needs of LEP students? How does their English proficiency affect their graduation? Their participation in vocational education?

6. Are you involved developing IEP's for the handicapped students served by your school? What is your role? How are those plans used to guide the affected students' educational programs?

7. What unique/innovative strategies do you use when dealing with LEP/bilingual, handicapped, and other at-risk students and addressing their special needs?

8. What is your school's policy on allowing LEP students into vocational programs? Is this a formal, written policy?

9. When computing a student's grade point average, class rank, or other summary indicators, are the grades obtained in some courses given stronger/greater weight than the grades obtained in other courses in the same subject area? For example, does an "A" in academic track or honors English count more than an "A" in other English courses? If yes, please describe the weighting scheme used.

10. What happens to a student in your school when either you or a teacher determines that he/she is deficient in his/her basic skills? Explain.

11. Do you participate in any programmatic activities at your school that involve out-of-school youth (dropouts), the retraining of adults, providing training for inmates, etc.? Describe.

12. In your opinion are the vocational students in your school being adequately prepared for the number of job changes they are likely to experience during their careers? Why or why not?

SUMMARY DATA FORM - OUTCOMES

School _____

Site Person _____

School Location _____

Source(s) of Data _____

	SERVICE AREAS						CURRICULA			SCHOOL
	A	B	H	M	HE	TI	Acad.	Gen.	Voc.	TOTAL
LABOR MARKET PARTICIPATION										
• Percent employed - (1) At exit from HS										
(2) Up to 6 mo. after HS										
(3) Up to 1 yr. after HS										
(4) Over 1 yr. after HS										
• Percent employed in area of training - (5) At exit from HS										
(6) Up to 6 mo. after HS										
(7) Up to 12 mo. after HS										
(8) Over 1 yr. after HS										
• Length of time on a single job (weeks) - (9) Up to 6 mo. after HS										
(10) Up to 1 yr after HS										
(11) Over 1 yr after HS										
• Wages ($/hr.) - (12) At exit from HS										
(13) Up to 6 mo. after HS										
(14) Up to 1 yr. after HS										
(15) Over 1 yr. after HS										
• Earnings ($/mo.) - (16) Up to 6 mo. after HS										
(17) Up to 1 yr. after HS										
(18) Over 1 yr. after HS										
SCHOOL VARIABLES										
• Dropout rates (percent) - (19) 1983/84 school yr.										
(20) 1984/85 school yr.										
(21) 1985/86 school yr.										
• Basic skills scores (indicate type, e.g., T, percentile, etc.) - (22) Before 9th - math										
(23) 9th - math										
(24) 10th - math										
(25) 11th - math										
(26) 12th - math										
(27) Before 9th - reading										
(28) 9th - reading										
(29) 10th - reading										
(30) 11th - reading										
(31) 12th - reading										

* A = Agriculture, B = Business and Office, H = Health, M = Marketing and Distributive Education, HE = Occupational Home Economics, TI = Trade and Industrial (and Technical)

		SERVICE AREAS						CURRICULA			SCHOOL
		A	B	H	M	HE	TI	Acad.	Gen.	Voc.	TOTAL
• Achievement test scores (indicate type, e.g., T, percentile, etc.)	(32) Before 9th										
	(33) 9th										
	(34) 10th										
	(35) 11th										
	(36) 12th										
• Competency exam scores (indicate type and cutoff)	(37) Before 9th										
	(38) 9th										
	(39) 10th										
	(40) 11th										
	(41) 12th										
• Performance (occupational skill) tests	(42) Before 9th										
	(43) 9th										
	(44) 10th										
	(45) 11th										
	(46) 12th										
• Interest test or inventory (indicate type)	(47) Before 9th										
	(48) 9th										
	(49) 10th										
	(50) 11th										
	(51) 12th										
• Number of scholarships won	(52)										
• Numbers of prizes/awards won in relation to clubs (e.g., VICA, Jr. Ach.)	(53)										
POSTSECONDARY PARTICIPATION											
• Percent enrolled	(54) Voc/Tech (postsec) sch.										
	(55) 2-year colleges										
	(56) 4-year colleges/univ.										
• Percent Completed	(57) Voc/Tech (postsec) sch.										
	(58) 2-year colleges										
	(59) 4-year colleges/univ.										
• Percent entered	(60) Military										
	(61) Apprenticeship										
	(62) JTPA sponsored training										
	(63) Empl. sponsored train.										

COMMENTS (e.g., problems in securing data, its quality, etc.)

SYLLABUS EVALUATION FORM

COURSE/PROGRAM _____

TEACHER _____ DATE _____

Does Syllabus Contain:

(1) _____ behavioral objectives?

(2) _____ lesson plans? (3) _____ Are lesson plans fairly detailed?

(4) _____ Is syllabus competency based?

(5) _____ Does syllabus provide for individuals differences?

(6) When was syllabus prepared? _____ (7) Updated? _____

(8) _____ Does syllabus have comprehensive and specific objectives for all students?

(9) _____ Are the listed teaching techniques or suggestions adjustable to meet the needs of each student?

(10) _____ Does the time scheduling for individual students reflect as awareness of individual capabilities and tolerances?

(11) _____ Does the syllabus provide for individual diagnosis and prescription techniques?

STUDENT INTERVIEW FORM

Understanding the Dynamics of Secondary Vocational Classrooms

Interviewer _____ Class _____

School _____ Teachers Name _____

Location _____

1. Number of Students Interviewed _____ 2. Date _____

3. Time Interview - Started _____ - Ended _____

4. How many of you are classified by your school as being ....

(A) Vocational Students?	(B) Academic or College Prep Students?	(C) General Students?	(D) Don't Know
_____	_____	_____	_____

5. Think about why you are taking this course. How many of you are taking it....

(A) ...as part of a planned program to prepare for a specific job or occupation when you leave high school? _____

(B) ...to help prepare you to enter a similar job-related training program in a community college or other school when you graduate? _____

(C) ...because of your personal interests (for example, learning how to fix a car or make clothes)? _____

(D) ...because you wanted to find out more about what is taught in vocational classes? _____

(E) ...because you thought it would be more practical and helpful than some other courses you could have taken? _____

(F) ...because it was required and you were assigned to it, not necessarily because you wanted to take it? _____

(G) ...Other reason(s) - _____ _____

6. If you had it to do over, how many of you would enroll in this course again? _____

7. During the last year, about how much time (in minutes) did you spend with a school guidance counselor?

(1) _____ (2) _____ (3) _____ (4) _____ (5) _____ (6) _____

8. (A) How many other vocational courses have you taken in high school?

(1) _____ (2) _____ (3) _____ (4) _____ (5) _____ (6) _____

(B) How many of the other vocational courses you've taken were directly related to (in the same program area as) this course?

(1) _____ (2) _____ (3) _____ (4) _____ (5) _____ (6) _____

9. What do you plan to do when you finish high school? (Check one per student.)

(1) ____Post Sec./College ____Military ____Other _____
____Post Sec./Voc. ____Job _____

(2) ____Post Sec./College ____Military ____Other _____
____Post Sec./Voc. ____Job _____

(3) ____Post Sec./College ____Military ____Other _____
____Post Sec./Voc. ____Job _____

(4) ____Post Sec./College ____Military ____Other _____
____Post Sec./Voc. ____Job _____

(5) ____Post Sec./College ____Military ____Other _____
____Post Sec./Voc. ____Job _____

(6) ____Post Sec./College ____Military ____Other _____
____Post Sec./Voc. ____Job _____

FOR THE NEXT ITEM, I AM GOING TO HAND EACH OF YOU A SHEET OF PAPER THAT YOU ARE TO FILL OUT. IF YOU NEED ANY HELP ANSWERING THAT ITEM, FEEL FREE TO ASK ME.

YOUR PARTICIPATION IS VOLUNTARY AND YOU DO NOT NEED TO FILL OUT THE FORM IF YOU DO NOT WANT TO.

PREFERENCES

People like to do thing in different ways. Below are four sets of statements that describe some preferences people have.

Each set of statements is in a box. For each box, describe which column of statements best describes you. Then, mark one of the squares in the bottom half of the box to let us know how well you feel one column or the other suits you. Mark only one square in each box.

COLUMN A	COLUMN B
I want to know only as much as I need to know to get the job or task finished.	I want to know everything about a new job or task.
I like to plan my work and then follow that plan	I like dealing with changes.
I like to finish things; I don't like to leave "loose ends."	I'm not bothered if all the "loose ends" aren't taken care of.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I care about people.	I may seem to be hard headed.
I enjoy pleasing other people.	I sometimes hurt peoples' feelings without knowing it.
I often make decisions based on other peoples' likes and wishes.	I tend to ignore other peoples' wishes.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I like rules.	I dislike doing the same thing over and over.
I like to work at a steady pace.	I like to work in bursts of energy.
I am patient when I deal with complicated details.	I get impatient with complicated details.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I like variety and action when I work.	I prefer quiet when I work so I can concentrate.
I like to work with other people.	I am happiest when I work by myself.
I can talk easily with other people.	I sometimes have a hard time talking with other people.
I often act quickly, sometimes without thinking.	I like to think about what I'm going to do before I do it.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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A	B
I care about people.	I may seem to be hard headed.
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☐	☐	☐	☐	☐
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☐	☐	☐	☐	☐
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☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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I like to finish things; I don't like to leave "loose ends."	I'm not bothered if all the "loose ends" aren't taken care of.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I care about people.	I may seem to be hard headed.
I enjoy pleasing other people.	I sometimes hurt peoples' feelings without knowing it.
I often make decisions based on other peoples' likes and wishes.	I tend to ignore other peoples' wishes.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I like rules.	I dislike doing the same thing over and over.
I like to work at a steady pace.	I like to work in bursts of energy.
I am patient when I deal with complicated details.	I get impatient with complicated details.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I like variety and action when I work.	I prefer quiet when I work so I can concentrate.
I like to work with other people.	I am happiest when I work by myself.
I can talk easily with other people.	I sometimes have a hard time talking with other people.
I often act quickly, sometimes without thinking.	I like to think about what I'm going to do before I do it.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

PREFERENCES

People like to do thing in different ways. Below are four sets of statements that describe some preferences people have.

Each set of statements is in a box. For each box, describe which column of statements best describes you. Then, mark one of the squares in the bottom half of the box to let us know how well you feel one column or the other suits you. Mark only one square in each box.

COLUMN A	COLUMN B
I want to know only as much as I need to know to get the job or task finished.	I want to know everything about a new job or task.
I like to plan my work and then follow that plan	I like dealing with changes.
I like to finish things; I don't like to leave "loose ends."	I'm not bothered if all the "loose ends" aren't taken care of.

☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

A	B
I care about people.	I may seem to be hard headed.
I enjoy pleasing other people.	I sometimes hurt peoples' feelings without knowing it.
I often make decisions based on other peoples' likes and wishes.	I tend to ignore other peoples' wishes.

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I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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I enjoy pleasing other people.	I sometimes hurt peoples' feelings without knowing it.
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I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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I like to work at a steady pace.	I like to work in bursts of energy.
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☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

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☐	☐	☐	☐	☐
I am a lot like Column A.	I am a little like Column A.	I am not more like Column A or Column B.	I am a little like Column B.	I am a lot like Column B.

CLASSROOM OBSERVATION BOOKLET

SCHOOL _____
CLASS _____
TEACHER _____
TIME WHEN CLASS: (a) Begins _____
(b) Ends _____
DATES: (a) 1st Observation _____
(b) 2nd Observation _____
OBSERVER _____

FOR USE BY CODERS ONLY!

INFORMATION	Columns(s)	Code
School ID	1-3	---
SMSA	4-7	----
State Abbreviation	8-9	--
Type of Data	10	8
Observer ID	11-12	--
Course Code	13-16	----
Teacher ID	17	-

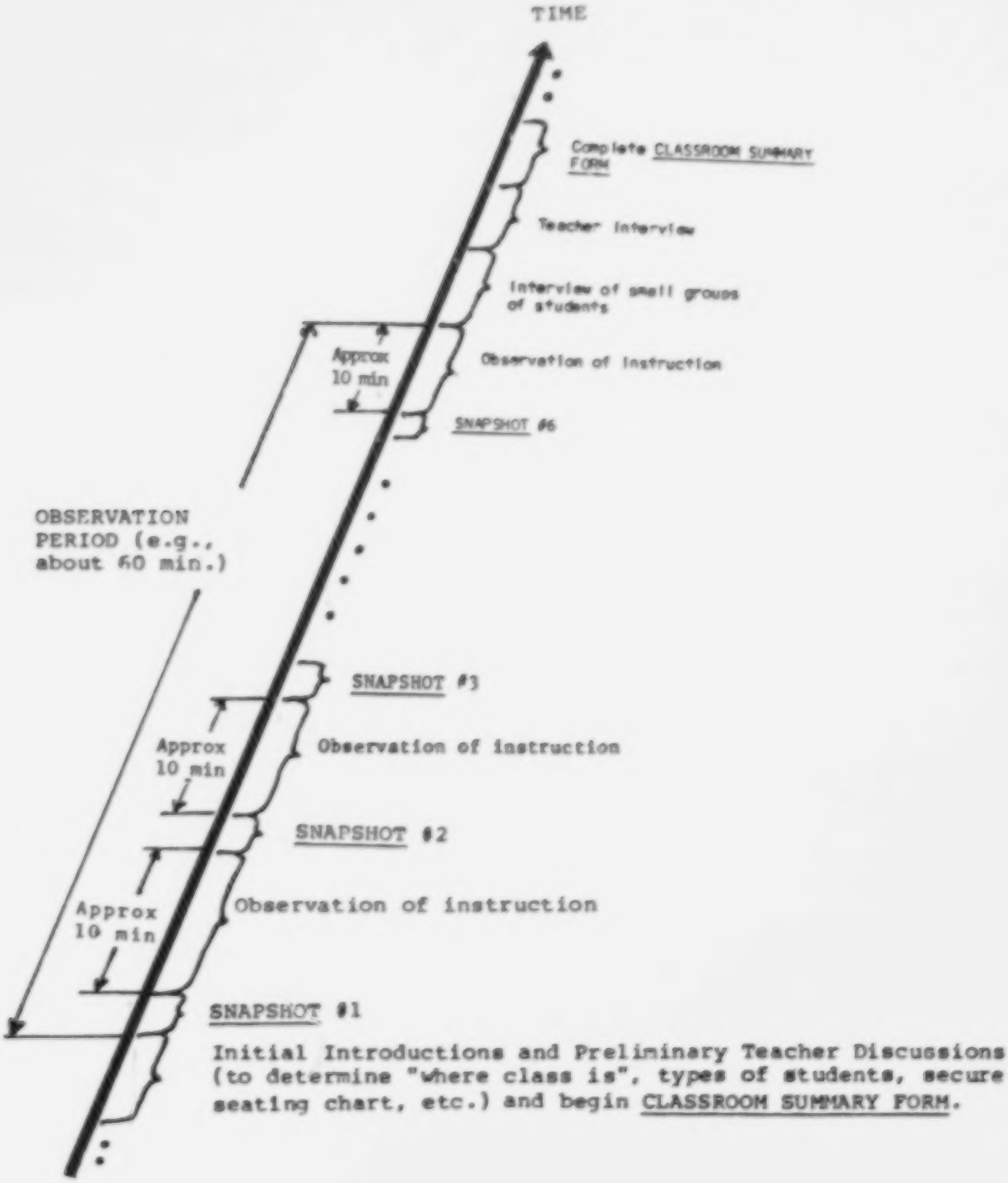

Figure 1. Overview of the classroom observation process

INITIAL CLASSROOM SUMMARY FORM

Date: _____ Location: _____

Class/Program: _____ Teacher: _____

1. Number of students enrolled in class?

   _____

2. Number of students who are--

   (A) _____ Female? (B) _____ Male?

3. Number of students who are in--

   (A) _____ 9th grade or less?
   (B) _____ 10th grade?
   (C) _____ 11th grade?
   (D) _____ 12th grade?

4. Number of students who are--

   (A) _____ White/not of Hispanic origin?
   (B) _____ Black/not of Hispanic origin?
   (C) _____ Hispanic?
   (D) _____ Other Minorities?

5. Number of students who are--

   (A) _____ Mentally handicapped?
   (B) _____ Physically handicapped?
   (C) _____ Both mentally and physically handicapped?

6. Number of students who are classified as being Limited English Proficient (LEP/bilingual)?

   _____

7. Sketch/Describe the primary work area(s) (e.g., classroom, lab, shop, etc.) in terms of approximate size, arrangement of furniture and instructional materials/aids, and location of key participants (e.g., teacher, aide, students).

8. Materials/Tools available in primary work area(s):

(A) ____ Desks
(B) ____ Workbench/ workstation
(C) ____ Telephone
(D) ____ Computer
(E) ____ AV equipment
(F) ____ Manuals (part of course)
(G) ____ Manuals (for reference)
(H) ____ "Support" materials (in foreign language)
(I) ____ Files
(J) ____ Textbooks (part of course)
(K) ____ Textbooks (for reference)
(L) ____ Typewriter
(M) ____ Task-related worksheets
(N) ____ Workbooks (part of course)
(O) ____ Multi-media "support" materials (technical)
(P) ____ Basic tool "sets"
(Q) ____ Special tools
(R) ____ "Support" materials (basic skills)
(S) ____ Machines (job specific)
(T) ____ Language master
(U) ____ Chalkboard
(V) ____ Other _____
_____
(W) ____ Other _____
_____

Use this space for additional notes/comments.

OBSERVATION #1
Date: _____

DESCRIPTIONS OF CONTENT AREAS/FOCAL TOPICS

1. Technical Skills/Theory - Direct instuuction (e.g., via lectures, specific competency-based materials), discussions, AV presentations focused on the "theory" (e.g., concepts, procedural sequences or task hierarchies) involved in performing job-related tasks.

2. Technical Skills/Practice - the performance by students of the technical skills/requirements for a job-task. (That performance may require the use of a basic skill, e.g., reading, computing, writing, or communicating.)

3. Employability Skills - communications/direct instruction designed to enhance the student or students work attitudes, knowledge of the world of work, or job-seeking/maintaining/advancing skills (e.g., punctuality, doing one's work well, interpersonal skills).

4. Setup and Cleanup - activities that the student(s) perform in preparation for an assigned task or in cleaning the work station or other work site area (e.g., cleaning the shop, sweeping up filings and oiling a lathe).

5. Youth Organization Activities - completing reports, discussing plans for meetings, etc. related to vocational clubs and similar youth activities.

6. Basic Skills (Separate) - instruction in basic skills that is not directly/intimately tied to the learning of (a) a technical, job-related skill — either theory or practice, or (b) non-vocational subject matter. (Basic skills include reading, computing writing,communicating/speaking.)

7. Other Subject Area Skills - instruction in non-vocational skills, topics, or subject areas (e.g., health, foreign languages, science, social studies, history) that may or may not require the use of a basic skill.

8. Managerial Tasks - announcements, giving/receiving directions, filling out school forms, distributing/collecting tests or quizzes, and similar activities.

9. Scheduled Class Breaks - lunch, coffee breaks,or other "rest periods" that are part of the regular class routine/schedule.

10. Individual Breaks - scheduled or unscheduled breaks or absences from the site of the observation by individual students (e.g., appointments with a counselor for evaluation purposes, visit to a nurse).

11. Doing Nothing - Lack of task-related activities; waiting for directions or answers to questions; "dead time".

12. Nonsanctioned Socializing - Socializing among students which is not an integral part of the ongoing teaching/learning process, e.g., whispering.

13. Disruptive Behavior - Behavior that is clearly disruptive to the learning/instruction that is underway; behavior that warrants discipline (e.g., horseplay, fighting).

14. Non-Student Oriented Teacher (Aide) Activity - Discussions between the teacher and aide, responses to requests for information from the central office, completing daily attendance records, and similar types of activities.

15. Other Activities - Other tasks or behaviors not covered by the preceding categories.

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT": 1 (A) 2 (B) 3 (C) 4 (D) 5 (E) 6 (F)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	___Students	I SG LG CL
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL

	EPISODE A				
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes	
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA	?	None	Little	Sizable
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task	
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA	?	None	T-->S S-->S	S-->T Other
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA	?	No	Simple Inst.	Complex Inst.
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?	NA	?	No	Yes	
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA	?	No	Yes	
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read	
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math	
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	?	No Writing	Simple Writing	Complex Writing	
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	?	No Speaking	Short Speaking	Extended Speaking	
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA	?	No	Yes	

KEY:

Teacher, Adult, or Leader?

T = Teacher
A = Aide
O = Other Adult
IS = Independent Student(s)

Grouping?

I = Individual Student(s)
SG = Small Group (2 to 10)
LG = Large Group (11 to (n-1))
CL = Total Class (n)

Content Area or Focal Topic?

- Instruction - Vocational
  - 1 = Technical Skills-Theory (Instruction via lectures, CB materials)
  - 2 = Technical Skills-Practice (Hands-on practice of job tasks)
  - 3 = Employability Skills (Resume's, how jobs are structured)
  - 4 = Setup and Cleanup (Cleaning work area, preparing for practice)
  - 5 = Youth Organization Activities (Completing projects, meetings)
  - 6 = Basic Skills (Reading, writing, computing, speaking enhancement)
- Instruction - Non-Vocational
  - 7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)
- Non-Instructional
  - 8 = Managerial Tasks (Filling out school forms, announcements)
  - 9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
  - 10 = Individual Breaks (Visiting nurse, seeing counselor, etc.)
  - 11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
  - 12 = Nonsanctioned Socializing (Whispering, etc.)
  - 13 = Disruptive behavior (Behavior that warrants discipline)
  - 14 = Non-Student Oriented Teacher Activity (Grading papers, talking to aide, etc.)
  - 15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(5 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Type(s) of Teaching Activity(ies) Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Timing - Did the episode Start, Continue, or End during this portion of the observation?

Type(s) of Instructional Event(s) Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT": 1 (A) 2 (B) 3 (C) 4 (D) 5 (E) 6 (F)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

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	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL

	EPISODE A
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA ? No Yes
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(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the <u>primary</u> pattern of interactions observed.)	NA ? None T-->S S-->T S-->S Other
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA ? No Simple Inst. Complex Inst.
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(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA ? No Yes
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	? No Read Simple Read Complex Read
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	? No Math Simple Math Complex Math
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(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA ? No Yes

KEY:

<u>Teacher, Adult, or Leader?</u>

T = Teacher
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7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)

• Non-Instructional
8 = Managerial Tasks (Filling out school forms, announcements)
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AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Type(s) of Teaching Activity(ies) Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

Timing - Did the episode Start, Continue, or End during this portion of the observation?

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Type(s) of Instructional Event(s) Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

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WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT": 1 (A) 2 (B) 3 (C) 4 (D) 5 (E) 6 (F)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping	
a. INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	___Students	I SG LG CL	
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
b. NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	

	EPISODE A					
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?		NA	?	No	Yes	
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA	?	None	Little	Sizable	
(30) Were students working on a SIMPLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task		
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA	?	None	T-->S S-->S	S-->T Other	
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA	?	No	Simple Inst.	Complex Inst.	
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?		NA	?	No	Yes	
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?		NA	?	No	Yes	
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read		
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math		
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	?	No Writing	Simple Writing	Complex Writing		
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	?	No Speaking	Short Speaking	Extended Speaking		
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?		NA	?	No	Yes	

KEY:

Teacher, Adult, or Leader?

T = Teacher
A = Aide
O = Other Adult
IS = Independent Student(s)

Grouping?

I = Individual Student(s)
SG = Small Group (2 to 10)
LG = Large Group (11 to [n-1])
CL = Total Class (n)

Content Area or Focal Topic?

a. Instruction - Vocational
1 = Technical Skills-Theory (Instruction via lectures, CB materials)
2 = Technical Skills-Practice (Hands-on practice of job tasks)
3 = Employability Skills (Resumes, how jobs are structured)
4 = Setup and Cleanup (Cleaning work area, preparing for practice)
5 = Youth Organization Activities (Completing projects, meetings)
6 = Basic Skills (Reading, writing, computing, speaking enhancement)

b. Instruction - Non-Vocational
7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)

c. Non-Instructional
8 = Managerial Tasks (Filling out school forms, announcements)
9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
10 = Individual Breaks (Visiting nurse, seeing counselor, etc.)
11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
12 = Punctuated Socializing (Whispering, etc.)
13 = Disruptive behavior (Behavior that warrants discipline)
14 = Non-Student Oriented Teacher Activity (Grading papers, talking to aide, etc.)
15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(5 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Types of Teaching Activities Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
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Timing - Did the episode Start, Continue, or End during this portion of the observation?

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H = Handicapped students
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M = Minority

Types of Instructional Events Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

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It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

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1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping	
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	____Students	I SG LG CL	
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	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	

	EPISODE A				
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes	
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA	?	None	Little	Sizable
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task	
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(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read	
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math	
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	?	No Writing	Simple Writing	Complex Writing	
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	?	No Speaking	Short Speaking	Extended Speaking	
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA	?	No	Yes	

KEY:

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A = Aide
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DESCRIPTIONS

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Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
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NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
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	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
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ADDITIONAL NOTES/COMMENTS

EPISODE A

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1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping
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	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
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	EPISODE A
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA ? No Yes
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA ? None Little Sizable
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(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA ? No Yes

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Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
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? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
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AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Timing - Did the episode Start, Continue, or End during this portion of the observation?

Typical of Instructional Events Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT": 1 (A) 2 (B) 3 (C) 4 (D) 5 (E) 6 (F)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping	
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	____Students	I SG LG CL	
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL	

	EPISODE A					
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes		
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA	?	None	Little	Sizable	
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task		
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA	?	None	T-->S S-->S	S-->T Other	
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA	?	No	Simple Inst.	Complex Inst.	
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?	NA	?	No	Yes		
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA	?	No	Yes		
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read		
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math		
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	?	No Writing	Simple Writing	Complex Writing		
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	?	No Speaking	Short Speaking	Extended Speaking		
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA	?	No	Yes		

KEY:

Teacher, Adult, or Leader?

T = Teacher
A = Aide
O = Other Adult
IS = Independent Student(s)

Grouping?

I = Individual Student(s)
SG = Small Group (2 to 10)
LG = Large Group (11 to (n-1))
CL = Total Class (n)

Content Area or Focal Topic?

• Instruction - Vocational
1 = Technical Skills-Theory (Instruction via lectures, IS materials)
2 = Technical Skills-Practice (Hands-on practice of job tasks)
3 = Employability Skills (Resume's, how jobs are structured)
4 = Setup and Cleanup (Cleaning work area, preparing for practice)
5 = Youth Organization Activities (Completing projects, meetings)
6 = Basic Skills (Reading, writing, computing, speaking enhancement)

• Instruction - Non-Vocational
7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)

• Non-Instructional
8 = Managerial Tasks (Filling out school forms, announcements)
9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
10 = Individual Breaks (Visiting nurse, seeing counselor, etc.)
11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
12 = Nonemotional Socializing (Whispering, etc.)
13 = Disruptive Behavior (Behavior that warrants discipline)
14 = Non-Student Oriented Teacher Activity (Reading papers, talking to aide, etc.)
15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(5 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Typical of Teaching Activity(ies) Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Timing - Did the episode Start, Continue, or End during this portion of the observation?

Typical of Instructional Material Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

POST OBSERVATION SUMMARY FORM

1. Materials/Tools used during the observation (list, then identify via the appropriate letters from Item 8 - INITIAL SUMMARY).

_____

_____

2. Time when observation began?

_____

3. Length of observation?

_____ minutes

4. Overall, which of the following best describes the predominant "format" of the class during the observation period?

_____ Teacher presentation of academic (theoretical materials, etc.) to whole class.

_____ Teacher presentation of procedural (hands-on tasks) to whole class.

_____ Teacher working with small group, while the remainder of the class works independently on the same task (as the group).

_____ Teacher working with small group, while the rest of the class works independently on more than one task but in same subject area?

_____ Each student is working individually, while the teacher circulates through the room; all students working on same task?

_____ Each student is working individually, while the teacher circulates through the room; students are working on a variety of tasks?

_____ Students are working in small groups, while the teacher circulates from group to group.

_____ Other (Describe - _____).

5. Generally, how dated were the printed materials (textbooks, workbooks/worksheets, etc.) used in this class?

_____ Very current, up-to-date
_____ Current, but not the latest
_____ Somewhat dated, not outmoded
_____ Very dated, outmoded
_____ Not applicable (non-vocational)
_____ Can't tell

6. Generally, how dated were the tools, machines, and other job-related equipment used in this class?

_____ Very current, up-to-date
_____ Current, but not the latest
_____ Somewhat dated, not outmoded
_____ Very dated, outmoded
_____ Not applicable (non-vocational)
_____ Can't tell

7. Generally, were the job-related concepts and skills (cognitive and performance) taught in this class--

_____ Very current, up-to-date?
_____ Current, but not the latest?
_____ Somewhat dated, not outmoded?
_____ Very dated, outmoded?
_____ Not applicable (non-vocational)?
_____ Can't tell?

8. During the observation, about what percentage of the time was spent on developing students'--

(A) _____% Cognitive skills?
(B) _____% Affective skills?
(C) _____% Psychomotor skills?
(D) _____% Off-Task (dead/wasted time?
(E) _____ Other?

_____
100% = TOTAL

9. The teacher skillfully gains and maintains the attention of students

1	2	3	4	5
Most students inattentive		Attention obtained from many students		Attention obtained from all students

10. The teacher encourages each student to participate in learning activities.

1	2	3	4	5
Achieved participation by few		Achieved some participation by many		Achieved maximum participation by all

11. The teacher checks individual student progress frequently.

1	2	3	4	5
Little checking of student progress		Checked at least half students' progress once or twice		Frequently checked progress of each student

12. The teacher encourages and effectively handles student questions.

1	2	3	4	5
Little encouragement and poor handling of questions		Moderate encouragement and effective handling of questions		Skillfully encourages and very effectively handles questions

13. The teacher uses training aids effectively.

1	2	3	4	5
Training aids not very effectively used		Training aids used reasonably well		Training aids most effectively used to expedite learning

14. Generally describe the evaluative feedback provided during the observation--

	Very Low				Very High
(A) Frequency:	__	__	__	__	__
	Very +				Very -
(B) Nature:	__	__	__	__	__
	Constructive				Perjorstive/ Destructive
(C) Nature of Negative:	__		__		__

15. What kinds, if any, of the following evaluation approaches were used during the observation?

(A) Paper/Pencil tests or quizzes - open-ended (essay) items? __Yes __No

(B) Paper/Pencil tests or quizzes - closed-ended fixed responses? __Yes __No

(C) Performance assessment - process (e.g., demonstrate a job-related task)? __Yes __No

(D) Performance assessment - product (e.g., evaluate properties of product)? __Yes __No

16. During the observation period were students involved in some type(s) of project based activity(ies)?

(A) _____No
_____Yes

(B) _____ individual student "owned"
_____ small student group "owned"
_____ teacher/class effort
_____ school project/effort
_____ other - _____

17. How much did the class (students/teacher) accomplish during the observation period?

[1] Very low accomplishment - Very little was accomplished compared to what seemed possible; a lot of wasted time and motion.
[2] Low accomplishment - Between very low and moderate.
[3] Moderate accomplishment - At times the teacher and/or students (individually and/or in groups) seemed to be accomplishing a lot but at other times things seemed to drag with little being accomplished, in relation to what seemed possible.
[4] High accomplishment - Between moderate and very high.
[5] Very high accomplishment - A great deal was accomplished during the class period in terms of the amount of material covered, progress made in completing projects, amount of practice obtained, etc., in relation to what seemed possible.

18. Were students required to demonstrate any of the following kinds of skills during the observation period? **(Check all that apply.)**

(A)___ APPLICATION - The selection and use of abstractions (e.g., general methods, theories, ideas, technical principles) in situations that are new or novel (e.g., to organize, sequence, illustrate, manipulate)

(B)___ ANALYSIS - To break down material into its component parts and to detect relationships among those parts as well as the way in which they are organized (e.g., to examine, classify, map, compare/contrast)

(C)___ SYNTHESIS - To put material together to form a new/novel whole; to arrange or combine parts/elements in such a way as to constitute a pattern or structure not there before (e.g., to design, create, formulate)

(D)___ EVALUATION - To judge the value of materials/methods for given purposes, e.g., with regard to the extent to which they satisfy criteria (e.g., to rate, prioritize, decide, assess, judge)

19. Specific problems encountered during observation and/or coding.

20. Summary notes and interpretive comments.

OBSERVATION #2
Date: _____

DESCRIPTIONS OF CONTENT AREAS/FOCAL TOPICS

1. Technical Skills/Theory - Direct instuuction (e.g., via lectures, specific competency-based materials), discussions, AV presentations focused on the "theory" (e.g., concepts, procedural sequences or task hierarchies) involved in performing job-related tasks.

2. Technical Skills/Practice - the performance by students of the technical skills/requirements for a job-task. (That performance may require the use of a basic skill, e.g., reading, computing, writing, or communicating.)

3. Employability Skills - communications/direct instruction designed to enhance the student or students work attitudes, knowledge of the world of work, or job-seeking/maintaining/advancing skills (e.g., punctuality, doing one's work well, interpersonal skills).

4. Setup and Cleanup - activities that the student(s) perform in preparation for an assigned task or in cleaning the work station or other work site area (e.g., cleaning the shop, sweeping up filings and oiling a lathe).

5. Youth Organization Activities - completing reports, discussing plans for meetings, etc. related to vocational clubs and similar youth activities.

6. Basic Skills (Separate) - instruction in basic skills that is not directly/intimately tied to the learning of (a) a technical, job-related skill — either theory or practice, or (b) non-vocational subject matter. (Basic skills include reading, computing writing,communicating/speaking.)

7. Other Subject Area Skills - instruction in non-vocational skills, topics, or subject areas (e.g., health, foreign languages, science, social studies, history) that may or may not require the use of a basic skill.

8. Managerial Tasks - announcements, giving/receiving directions, filling out school forms, distributing/collecting tests or quizzes, and similar activities.

9. Scheduled Class Breaks - lunch, coffee breaks,or other "rest periods" that are part of the regular class routine/schedule.

10. Individual Breaks - scheduled or unscheduled breaks or absences from the site of the observation by individual students (e.g., appointments with a counselor for evaluation purposes, visit to a nurse).

11. Doing Nothing - Lack of task-related activities; waiting for directions or answers to questions; "dead time".

12. Nonsanctioned Socializing - Socializing among students which is not an integral part of the ongoing teaching/learning process, e.g., whispering.

13. Disruptive Behavior - Behavior that is clearly disruptive to the learning/instruction that is underway; behavior that warrants discipline (e.g., horseplay, fighting).

14. Non-Student Oriented Teacher (Aide) Activity - Discussions between the teacher and aide, responses to requests for information from the central office, completing daily attendance records, and similar types of activities.

15. Other Activities - Other tasks or behaviors not covered by the preceding categories.

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT": 1 (G) 2 (H) 3 (I) 4 (J) 5 (K) 6 (L)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	___Students	I SG LG CL
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL

	EPISODE A
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA ? No Yes
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA ? None Little Sizable
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA ? Simple Task Complex Task
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA ? None T-->S S-->T S-->S Other
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA ? No Simple Inst. Complex Inst.
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?	NA ? No Yes
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA ? No Yes
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	? No Read Simple Read Complex Read
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	? No Math Simple Math Complex Math
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	? No Writing Simple Writing Complex Writing
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	? No Speaking Short Speaking Extended Speaking
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA ? No Yes

KEY:

Teacher, Adult, or Leader?

T = Teacher
A = Aide
O = Other Adult
IS = Independent Student(s)

Grouping?

I = Individual Student(s)
SG = Small Group (2 to 10)
LG = Large Group (11 to (n-1))
CL = Total Class (n)

Content Area or Focal Topic?

• Instruction - Vocational
1 = Technical Skills-Theory (Instruction via lectures, CB materials)
2 = Technical Skills-Practice (Hands-on practice of job tasks)
3 = Employability Skills (Resume's, how jobs are structured)
4 = Setup and Cleanup (Cleaning work area, preparing for practice)
5 = Youth Organization Activities (Completing projects, meetings)
6 = Basic Skills (Reading, writing, computing, speaking enhancement)

• Instruction - Non-Vocational
7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)

• Non-Instructional
8 = Managerial Tasks (Filling out school forms, announcements)
9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
10 = Individual Breaks (Visiting nurse, seeing counselor, etc.)
11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
12 = Nonsanctioned Socializing (Whispering, etc.)
13 = Disruptive behavior (Behavior that warrants discipline)
14 = Non-Student Oriented Teacher Activity (Grading papers, talking to aide, etc.)
15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(5 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Types of Teaching Activities Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Timing - Did the episode Start, Continue, or End during this portion of the observation?

Types of Instructional Events Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

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FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT": 1 (G) 2 (H) 3 (I) 4 (J) 5 (K) 6 (L)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   Classroom Lab/Shop Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping	
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	___Students	I SG LG CL	
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL	

	EPISODE A				
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes	
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA	?	None	Little	Sizable
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task	
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA	?	None	T-->S S-->S	S-->T Other
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA	?	No	Simple Inst.	Complex Inst.
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?	NA	?	No	Yes	
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA	?	No	Yes	
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read	
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math	
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	?	No Writing	Simple Writing	Complex Writing	
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	?	No Speaking	Short Speaking	Extended Speaking	
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA	?	No	Yes	

KEY:

Teacher, Adult, or Leader?

T = Teacher
A = Aide
O = Other Adult
IS = Independent Student(s)

Grouping?

I = Individual Student(s)
SG = Small Group (2 to 10)
LG = Large Group (11 to (n-1))
CL = Total Class (n)

Content Area or Focal Topic?

• Instruction - Vocational
1 = Technical Skills-Theory (Instruction via lectures, CB materials)
2 = Technical Skills-Practice (Hands-on practice of job tasks)
3 = Employability Skills (Resume's, how jobs are structured)
4 = Setup and Cleanup (Cleaning work area, preparing for practice)
5 = Youth Organization Activities (Completing projects, meetings)
6 = Basic Skills (Reading, writing, computing, speaking enhancement)

• Instruction - Non-Vocational
7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)

• Non-Instructional
8 = Managerial Tasks (Filling out school forms, announcements)
9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
10 = Individual Breaks (Visiting nurse, seeing counselor, etc.)
11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
12 = Nonemotional Socializing (Whispering, etc.)
13 = Disruptive behavior (Behavior that corrects discipline)
14 = Non-Student Oriented Teacher Activity (Grading papers, talking to aide, etc.)
15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(5 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Typical of Teaching Activity(ies) Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Testing Test Prep = Preparation for Assignments
Other = Other type of activity

Timing - Did the episode Start, Continue, or End during this portion of the observation?

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Typical of Instructional Events Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

CLASSROOM "SNAPSHOT" RECORD

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1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) # Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping
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	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL

	EPISODE A				
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes	
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(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task	
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(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read	
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math	
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Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
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EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
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NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
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ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

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- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

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1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping	
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	EPISODE A				
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes	
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Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
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	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
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EPISODE B

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2. Location where SNAPSHOT was taken?

   Classroom Lab/Shop Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	___Students	I SG LG CL
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	___Students	I SG LG CL

	EPISODE A
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA ? No Yes
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA ? None Little Sizable
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA ? Simple Task Complex Task
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA ? None T-->S S-->T S-->S Other
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA ? No Simple Inst. Complex Inst.
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?	NA ? No Yes
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA ? No Yes
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	? No Read Simple Read Complex Read
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	? No Math Simple Math Complex Math
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	? No Writing Simple Writing Complex Writing
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	? No Speaking Short Speaking Extended Speaking
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA ? No Yes

KEY:

Teacher, Adult, or Leader?
- T = Teacher
- A = Aide
- O = Other Adult
- IS = Independent Student(s)

Grouping?
- I = Individual Student(s)
- SG = Small Group (2 to 10)
- LG = Large Group (11 to (n-1))
- CL = Total Class (n)

Content Area or Focal Topic?

- Instruction - Vocational
  - 1 = Technical Skills-Theory (Instruction via lectures, CB materials)
  - 2 = Technical Skills-Practice (Hands-on practice of job tasks)
  - 3 = Employability Skills (Resume's, how jobs are structured)
  - 4 = Setup and Cleanup (Cleaning work area, preparing for practice)
  - 5 = Youth Organization Activities (Completing projects, meetings)
  - 6 = Basic Skills (Reading, writing, computing, speaking enhancement)
- Instruction - Non-Vocational
  - 7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)
- Non-Instructional
  - 8 = Managerial Tasks (Filling out school forms, announcements)
  - 9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
  - 10 = Individual Breaks (Visiting nurse, seeing counselor, etc.)
  - 11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
  - 12 = Nonsanctioned Socializing (Whispering, etc.)
  - 13 = Disruptive behavior (Behavior that warrants discipline)
  - 14 = Non-Student Oriented Teacher Activity (Grading papers, talking to aide, etc.)
  - 15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(5 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF FEED ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Typical of Teaching Activity(ies) Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Timing - Did the episode Start, Continue, or End during this portion of the observation?

Typical of Instructional Events Observed (See definitions on next page.)

ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

CLASSROOM "SNAPSHOT" RECORD

- Sequence Number for this "SNAPSHOT":

1	2	3	4	5	6
(C)	(H)	(I)	(J)	(K)	(L)

- Generally describe (a) what is occurring in the class at the time the SNAPSHOT is taken (e.g., the teacher is writing on the blackboard and lecturing to the total group of students present), (b) what materials are being used (e.g., the blackboard and textbooks), and (c) how this snapshot relates to the preceding one (if applicable).

1. Time SNAPSHOT taken? _____

2. Location where SNAPSHOT was taken?

   ___ Classroom ___ Lab/Shop ___ Other

3. Number of students present when SNAPSHOT was taken?

   _____

EPISODE

Type of Episode	Episode Number	(1) Teacher, Adult, or "Leader"	(2) Content Area or Focal Topic	(3) No. Students Involved	(4) Grouping
• INSTRUCTION-RELATED	A	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL
	B	T A O IS	___TOPIC AREA ID # from KEY Description_____	____Students	I SG LG CL
	C	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL
	D	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL
• NON-INSTRUCTION-RELATED	E	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL
	F	T A O IS	___TOPIC/AREA ID # from KEY Description_____	____Students	I SG LG CL

	EPISODE A				
(28) Did the students appear to KNOW what they were to do AND PROCEED IN an UNHESITATED MANNER through their assigned task/activity?	NA	?	No	Yes	
(29) How much AUTONOMY OR CONTROL did students have in carrying out the task, assignment, or activity addressed during the episode?	NA	?	None	Little	Sizable
(30) Were students working on a SINGLE, SIMPLE TASK OR A COMPLEX TASK (with a number of parts)?	NA	?	Simple Task	Complex Task	
(31) How would you DESCRIBE THE INTERACTIONS OBSERVED during the course of the episode? (Describe the primary pattern of interactions observed.)	NA	?	None	T-->S S-->S	S-->T Other
(32) Were students involved in carrying out COMPLEX INSTRUCTIONS, SIMPLE INSTRUCTIONS, OR NO INSTRUCTIONS during the episode?	NA	?	No	Simple Inst.	Complex Inst.
(33) Were students given questions or assignments that REQUIRED a JUDGEMENT OR EVALUATION on their part (and had no simple "yes" or "no" answer)?	NA	?	No	Yes	
(34) Were ADEQUATE QUANTITIES/TYPES OF MATERIALS AND SUPPLIES AVAILABLE when needed/required (vs. delays while such materials were being secured - "dead time")?	NA	?	No	Yes	
(35) Did students have to READ complex, simple (short sentence or two, short directions, short words) or no materials during the episode?	?	No Read	Simple Read	Complex Read	
(36) Were simple or complex (e.g., algebra, trig.) MATH CONCEPTS/OPERATIONS completed during the episode?	?	No Math	Simple Math	Complex Math	
(37) Were students required to WRITE letters, paragraphs, a number of sentences during the episode; to write simple sentences, a few words, a series of numbers; or to not write?	?	No Writing	Simple Writing	Complex Writing	
(38) Were students required to SPEAK more than a couple words or a sentence (e.g., a one or two word response to a question by the teacher) during the episode?	?	No Speaking	Short Speaking	Extended Speaking	
(39) Did a student or students RECEIVE DIRECT FEEDBACK REGARDING their PERFORMANCE with regard to the task or activity worked on during the episode?	NA	?	No	Yes	

KEY:

Teacher, Adult, or Leader?

T = Teacher
A = Aide
O = Other Adult
IS = Independent Student(s)

Grouping?

I = Individual Student(s)
SG = Small Group (2 to 10)
LG = Large Group (11 to [n-4])
CL = Total Class (n)

Content Area or Focal Topic?

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4 = Setup and Cleanup (Cleaning work area, preparing for practice)
5 = Youth Organization Activities (Completing projects, meetings)
6 = Basic Skills (Reading, writing, computing, speaking enhancement)

• Instruction - Non-Vocational
7 = Other Subject Area Skills (Instruction in science, health, history, grammar, etc.)

• Non-Instructional
8 = Managerial Tasks (Filling out school forms, announcements)
9 = Scheduled Class Breaks (Lunch, coffee breaks, etc.)
10 = Individual Breaks (Visiting nurse, using restroom, etc.)
11 = Doing Nothing (Lack of task-related activities, waiting, "dead time")
12 = Nonsanctioned Socializing (Whispering, etc.)
13 = Disruptive behavior (Behavior that warrants discipline)
14 = Non-Student Oriented Teacher Activity (Grading papers, talking to aide, etc.)
15 = Other (Not addressed by preceding categories)

DESCRIPTIONS

(15 to 17) Type(s) of Teaching Activity(ies) Used	(18 to 24) Type(s) of Material(s) Being Used	(25) Were At-Risk Students Involved?	(26) Timing	(27) Type(s) of Event(s) Observed
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read Pr/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
AV Disc Lect Demo Sim WW Read PR/Phy Pr/Verb Test Prep Other	None Textbook Worksheets AV Equipment Test Chalkboard Machines/Tools Other	? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA
Describe topic/subject area - _____		? No H L M	S C E	PRES PRAC PERF PERD ? NA

EPISODE B	EPISODE C	EPISODE D
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? None Little Sizable	NA ? None Little Sizable	NA ? None Little Sizable
NA ? Simple Task Complex Task	NA ? Simple Task Complex Task	NA ? Simple Task Complex Task
NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other	NA ? None T-->S S-->T S-->S Other
NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.	NA ? No Simple Inst. Complex Inst.
NA ? No Yes	NA ? No Yes	NA ? No Yes
NA ? No Yes	NA ? No Yes	NA ? No Yes
? No Read Simple Read Complex Read	? No Read Simple Read Complex Read	? No Read Simple Read Complex Read
? No Math Simple Math Complex Math	? No Math Simple Math Complex Math	? No Math Simple Math Complex Math
? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing	? No Writing Simple Writing Complex Writing
? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking	? No Speaking Short Speaking Extended Speaking
NA ? No Yes	NA ? No Yes	NA ? No Yes

	Episode No.	Description of Activity/Event
4. Most positive activity/event observed during this part of the observation?	____	_____
5. Most negative/questionable activity/event noted during this part of the observation?	____	_____

Typical of Teaching Activity(ies) Used

AV = AV presentation Disc = Discussion Lect = Lecture (listening) Demo = Demonstration (watching)
Sim = Simulation (Role Playing) WW = Written Work Read = Reading Pr/Phy = Practice/Performance (physical)
Pr/Verb = Practice/Performance (verbal) Test = Taking Test Prep = Preparation for Assignments
Other = Other type of activity

At-Risk Students Involved?

H = Handicapped students
L = Limited English Proficient
M = Minority

Timing - Did the episode Start, Continue, or End during this portion of the observation?

Typical of Instructional Material Observed (See definitions on next page.)

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ADDITIONAL NOTES/COMMENTS

EPISODE A

EPISODE B

EPISODE C

EPISODE D

- -

FURTHER DETAILS regarding Type(s) of Instructional Event(s) Observed

It is assumed that the following general types of "events" usually occur in a cyclical fashion during the course of instruction.

PRESENTATION - Introduction/Development of concepts and skills via an overview or review of previously learned concepts or skills, explanation of what is to be learned and why it is important; an explanation of the concepts and skills to be learned; demonstration during the explanation process of initial understanding of the skills and concepts being learned--provision of corrective feedback and remediation during the actual explanation or course of learning.

PRACTICE - Opportunities for students to practice what they have learned--under guided or controlled conditions where they complete one or two short tasks and under independent conditions with little or no guidance.

PERFORMANCE - Explicit monitoring of student mastery (understanding, application, transfer, etc.) of the learned concepts and skills via daily work, unit tests, periodic reviews, etc. with provisions for subsequent feedback and remediation to ensure mastery.

FEEDBACK - Provision of evaluative or corrective information to students regarding their actions/performance during the presentation, practice, or performance events.

WHICH TYPE(S) OF EVENTS, IF ANY, DID YOU NOTE DURING EACH DESIGNATED EPISODE?

POST OBSERVATION SUMMARY FORM

1. Materials/Tools used during the observation (list, then identify via the appropriate letters from Item 8 - INITIAL SUMMARY).

   _____

   _____

2. Time when observation began?

   _____

3. Length of observation?

   _____ minutes

4. Overall, which of the following best describes the predominant "format" of the class during the observation period?

   _____ Teacher presentation of academic (theoretical materials, etc.) to whole class.

   _____ Teacher presentation of procedural (hands-on tasks) to whole class.

   _____ Teacher working with small group, while the remainder of the class works independently on the same task (as the group).

   _____ Teacher working with small group, while the rest of the class works independently on more than one task but in same subject area?

   _____ Each student is working individually, while the teacher circulates through the room; all students working on same task?

   _____ Each student is working individually, while the taacher circulates through the room; students are working on a variety of tasks?

   _____ Students are working in small groups, while the teacher circulates from group to group.

   _____ Other (Describe - _____).

5. Generally, how dated were the printed materials (textbooks, workbooks/worksheets, etc.) used in this class?

   _____ Very current, up-to-date
   _____ Current, but not the latest
   _____ Somewhat dated, not outmoded
   _____ Very dated, outmoded
   _____ Not applicable (non-vocational)
   _____ Can't tell

6. Generally, how dated were the tools, machines, and other job-related equipment used in this class?

   _____ Very current, up-to-date
   _____ Current, but not the latest
   _____ Somewhat dated, not outmoded
   _____ Very dated, outmoded
   _____ Not applicable (non-vocational)
   _____ Can't tell

7. Generally, were the job-related concepts and skills (cognitive and performance) taught in this class--

   _____ Very current, up-to-date?
   _____ Current, but not the latest?
   _____ Somewhat dated, not outmoded?
   _____ Very dated, outmoded?
   _____ Not applicable (non-vocational)?
   _____ Can't tell?

8. During the observation, about what percentage of the time was spent on developing students'--

   (A) _____% Cognitive skills?
   (B) _____% Affective skills?
   (C) _____% Psychomotor skills?
   (D) _____% Off-Task (dead/wasted time?
   (E) _____ Other?

   _____
   100% = TOTAL

9. The teacher skillfully gains and maintains the attention of students

1	2	3	4	5
Most students inattentive		Attention obtained from many students		Attention obtained from all students

10. The teacher encourages each student to participate in learning activities.

1	2	3	4	5
Achieved participation by few		Achieved some participation by many		Achieved maximum participation by all

11. The teacher checks individual student progress frequently.

1	2	3	4	5
Little checking of student progress		Checked at least half students' progress once or twice		Frequently checked progress of each student

12. The teacher encourages and effectively handles student questions.

1	2	3	4	5
Little encouragement and poor handling of questions		Moderate encouragement and effective handling of questions		Skillfully encourages and very effectively handles questions

13. The teacher uses training aids effectively.

1	2	3	4	5
Training aids not very effectively used		Training aids used reasonably well		Training aids most effectively used to expedite learning

14. Generally describe the evaluative feedback provided during the observation--

	Very Low			Very High
(A) Frequency:	__	__	__	__

	Very +			Very -
(B) Nature:	__	__	__	__

	Constructive		Perjorative/ Destructive
(C) Nature of Negative:	__	__	__

15. What kinds, if any, of the following evaluation approaches were used during the observation?

(A) Paper/Pencil tests or quizzes - open-ended (essay) items? __Yes __No

(B) Paper/Pencil tests or quizzes - closed-ended fixed responses? __Yes __No

(C) Performance assessment - process (e.g., demonstrate a job-related task)? __Yes __No

(D) Performance assessment - product (e.g., evaluate properties of product)? __Yes __No

16. During the observation period were students involved in some type(s) of project based activity(ies)?

(A) _____No
_____Yes

(B) _____ individual student "owned"
_____ small student group "owned"
_____ teacher/class effort
_____ school project/effort
_____ other - _____

17. How much did the class (students/teacher) accomplish during the observation period?

[1] Very low accomplishment - Very little was accomplished compared to what seemed possible; a lot of wasted time and motion.
[2] Low accomplishment - Between very low and moderate.
[3] Moderate accomplishment - At times the teacher and/or students (individually and/or in groups) seemed to be accomplishing a lot but at other times things seemed to drag with little being accomplished, in relation to what seemed possible.
[4] High accomplishment - Between moderate and very high.
[5] Very high accomplishment - A great deal was accomplished during the class period in terms of the amount of material covered, progress made in completing projects, amount of practice obtained, etc., in relation to what seemed possible.

18. Were students required to demonstrate any of the following kinds of skills during the observation period? **(Check all that apply.)**

(A)___ APPLICATION - The selection and use of abstractions (e.g., general methods, theories, ideas, technical principles) in situations that are new or novel (e.g., to organize, sequence, illustrate, manipulate)

(B)___ ANALYSIS - To break down material into its component parts and to detect relationships among those parts as well as the way in which they are organized (e.g., to examine, classify, map, compare/contrast)

(C)___ SYNTHESIS - To put material together to form a new/novel whole; to arrange or combine parts/elements in such a way as to constitute a pattern or structure not there before (e.g., to design, create, formulate)

(D)___ EVALUATION - To judge the value of materials/methods for given purposes, e.g., with regard to the extent to which they satisfy criteria (e.g., to rate, prioritize, decide, assess, judge)

19. Specific problems encountered during observation and/or coding.

20. Summary notes and interpretive comments.

APPENDIX B

RECORD LAYOUTS FOR THE THREE PROJECT DATA FILES

SCHOOL FILE RECORD LAYOUT

COMMUNITY VARIABLES

LABEL	DESCRIPTION	VAR #
SCH 1	SCHOOL ID	1
SCH 2	SMSA	2
SCH 3	STATE	3
SCH 4	COUNTY	4
SCH 5	NUMBER OF PROGRAMS IN AGRICULTURE	5
SCH 6	NUMBER OF PROGRAMS IN BUSINESS AND OFFICE	6
SCH 7	NUMBER OF PROGRAMS IN HEALTH	7
SCH 8	NUMBER OF PROGRAMS IN MARKETING AND DISTRIBUTIVE EDUCATION	8
SCH 9	NUMBER OF PROGRAMS IN OCCUPATIONAL HOME ECONOMICS	9
SCH 10	NUMBER OF PROGRAMS IN TRADE AND INDUSTRY	10
SCH 11	NUMBER OF PROGRAMS IN INDUSTRIAL ARTS	11
SCH 12	NUMBER OF PROGRAMS IN CONSUMER HOME ECONOMICS	12
SCH 13	% EMPLOYED IN MINING	13
SCH 14	% EMPLOYED IN CONSTRUCTION	14
SCH 15	% EMPLOYED IN MANUFACTURE	15
SCH 16	% EMPLOYED IN TRANSPORTATION	16
SCH 17	% EMPLOYED IN TRADE	17
SCH 18	% EMPLOYED IN FINANCE	18
SCH 19	% EMPLOYED IN SERVICES	19
SCH 20	% EMPLOYED IN GOVERNMENT	20
SCH 21	AVERAGE HOURLY EARNINGS (2 IMPLIED DECIMALS)	21
SCH 22	AVERAGE WEEKLY EARNINGS (2 IMPLIED DECIMALS)	22
SCH 23	% UNEMPLOYED (1 IMPLIED DECIMAL)	23
SCH 24	PEOPLE PER SQUARE MILE	24
SCH 25	% CHANGE IN POPULATION 1980-84	25
SCH 26	% WHITE	26
SCH 27	% BLACK	27
SCH 28	% SPANISH ORIGIN	28
SCH 29	BLANK	29
SCH 30	BLANK	30
SCH 31	MEDIAN AGE (1 IMPLIED DECIMAL)	31
SCH 32	BLANK	32
SCH 33	% SPEAKING SECOND LANGUAGE	33
SCH 34	PERSONS PER HOUSEHOLD	34
SCH 35	BLANK	35
SCH 36	BLANK	36
SCH 37	% WITH NO HUSBAND	37
SCH 38	BLANK	38
SCH 39	BLANK	39
SCH 40	% BIRTHS TO UNDER 20 (1 IMPLIED DECIMAL)	40
SCH 41	% BIRTHS TO BLACKS	41
SCH 42	BIRTH RATE PER THOUSAND	42
SCH 43	BLANK	43
SCH 44	BLANK	44
SCH 45	BLANK	45
SCH 46	BLANK	46
SCH 47	BLANK	47
SCH 48	NUMBER OF SOC. SEC. RECIPIENTS PER 1000 PEOPLE	48
SCH 49	NUMBER OF AID TO DEPENDENT CHILDREN RECIPIENTS PER 1000 PEOPLE	49
SCH 50	EMPLOYMENT /RESIDENTIAL RATIO (2 IMPLIED DECIMALS)	50
SCH 51	BLANK	51
SCH 52	BLANK	52
SCH 53	BLANK	53
SCH 54	MEDIAN VALUE OF HOUSING UNIT	54
SCH 55	% WITH OVER 12 YEARS OF EDUCATION (2 IMPLIED DECIMALS)	55
SCH 56	% WITH OVER 16 YEARS OF EDUCATION	56
SCH 57	BLANK	57
SCH 58	BLANK	58
SCH 59	PER CAPITA INCOME	59
SCH 60	% BELOW POVERTY LEVEL (1 IMPLIED DECIMAL)	60
SCH 61	BLANK	61
SCH 62	UNEMPLOYMENT RATE (1 IMPLIED DECIMAL)	62
SCH 63	BLANK	63
SCH 64	BLANK	64
SCH 65	PER CAPITA REFUND WITH FEDERAL GRANTS	65
SCH 66	BLANK	66
SCH 67	BLANK	67
SCH 68	BLANK	68
SCH 69	BLANK	69
SCH 70	BLANK	70
SCH 71	% MANUFACTURING ESTABLISHMENTS WITH 100 EMPLOYEES OR MORE	71
SCH 72	BLANK	72
SCH 73	AVERAGE WAGE PER MANUFACTURING PRODUCTION WORKER	73

COMMUNITY VARIABLES

LABEL	DESCRIPTION	VAR #
SCH 74	PER CAPITA RETAIL SALES	74
SCH 75	LOCATION	75
SCH 76	# STUDENTS 85-86	76
SCH 77	TYPE OF SCHOOL	77

PRINCIPAL QUESTIONNAIRE

PNC 1	PRINCIPAL QUESTIONNAIRE AVAILABLE	78
PNC 2	TYPE OF AREA IN WHICH SCHOOL IS LOCATED	79
PNC 3	APPROXIMATE SIZE OF GEOGRAPHIC AREA SERVED BY SCHOOL(SQ MILES)	80
PNC 4	APPROXIMATE POPULATION OF AREA SERVED BY SCHOOL	81
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OUT 45	% COMPLETED POSTSEC 2 YEAR COLLEGES - VOCATIONAL CURR	483
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OUTCOMES DATA

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TEACHER FILE RECORD LAYOUT

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VAR LABELS  T2 MONTH BORN/
            T3 YEAR BORN/
            T4 SEX/
            T5 HIGHEST LEVEL OF EDUCATION/
            T6 YEAR COMPLETED HIGHEST LEVEL OF EDUCATION/
            T7 ETHNIC GROUP/
            T8 STATE WHERE RECEIVED BACHELORS DEGREE/
            T9 HOW MANY YEARS EXPERIENCE AS FULL-TIME TEACHER/
           T10 HOW MANY DAYS OF TEACHING MISSED DURING PAST YEAR/
           T11 AVERAGE HOURS PER WEEK ASSIGNED TO TEACH/
           T12 AVERAGE SIZE OF CLASS/
           T13 SUBJECT MOST FREQUENTLY TAUGHT/
           T14 SECOND MOST FREQUENTLY TAUGHT SUBJECT/
           T15 THIRD MOST FREQUENTLY TAUGHT SUBJECT/
           T16 # COURSES TAKEN IN MOST FREQUENT SUBJECT/
           T17 # COURSES TAKEN IN SECOND MOST FREQUENT SUBJECT/
           T18 # COURSES TAKEN IN THIRD MOST FREQUENT SUBJECT/
           T19 CERTIFICATION IN MOST FREQUENT SUBJECT/
           T20 CERTIFICATION IN SECOND MOST FREQUENT SUBJECT/
           T21 CERTIFICATION IN THIRD MOST FREQUENT SUBJECT/
           T22 HOW LONG CERTIFIED IN MOST FREQUENT SUBJECT/
           T23 HOW LONG CERTIFIED IN SECOND MOST FREQUENT SUBJECT/
           T24 HOW LONG CERTIFIED IN THIRD MOST FREQUENT SUBJECT/
           T25 HOW MUCH CONTROL IN SCHOOLWIDE CURRICULUM/
           T26 HOW MUCH CONTROL IN SELECTING CONTENT OF COURSES/
           T27 HOW MUCH CONTROL IN SELECTING INSTRUCTIONAL TECHNIQUES/
           T28 HOW MUCH CONTROL IN SELECTING INSTRUCTIONAL MATERIALS/
           T29 RANK-EMPHASIS PLACED ON BASIC SKILLS/
           T30 RANK-EMPHASIS PLACED ON ADVANCED SKILL DEVELOPMENT/
           T31 RANK-EMPHASIS PLACED ON CITIZENSHIP/
           T32 RANK-EMPHASIS PLACED ON SPECIFIC OCCUPATIONAL SKILLS/
           T33 RANK-EMPHASIS PLACED ON PERSONAL GROWTH/
           T34 RANK-EMPHASIS PLACED ON GOOD WORK HABITS AND SELF-DISCIPLINE/
           T35 RANK-EMPHASIS PLACED ON HUMAN RELATIONS SKILLS/
           T36 RANK-EMPHASIS PLACED ON MORAL AND RELIGIOUS VALUES/
           T37 RANK-EMPHASIS PLACED ON CAREER DEVELOPMENT SKILLS/
           T38 MONTHLY HOURS SPENT MEETING WITH DEPARTMENT HEAD/
           T39 MONTHLY HOURS SPENT MEETING WITH ADMINISTRATORS/
           T40 MONTHLY HOURS SPENT MEETING WITH ADVISORY COMMITTEE/
           T41 MONTHLY HOURS SPENT MEETING WITH OTHER TEACHERS/
           T42 MONTHLY HOURS SPENT MEETING WITH GUIDANCE STAFF/
           T43 MONTHLY HOURS SPENT MEETING WITH SPECIAL POPULATION COORD/
           T44 WEEKLY HOURS SPENT IN HALL DUTY, STUDY HALLS, LUNCHROOM ETC/
           T45 WEEKLY HOURS SPENT IN PAPERWORK/
           T46 WEEKLY HOURS SPENT PREPARING CLASSES, GRADING PAPERS/
           T47 WEEKLY HOURS SPENT COUNSELING-STUDENTS PERSONAL PROBLEMS/
           T48 WEEKLY HOURS SPENT COUNSELING-STUDENTS CAREER DEVELOPMENT/
           T49 WEEKLY HOURS SPENT TUTORING STUDENTS WITH SPECIAL NEEDS/
           T50 WEEKLY HOURS SPENT CONTACTING EMPLOYERS/
           T51 WEEKLY HOURS SPENT COACHING SPORTS/
           T52 WEEKLY HOURS SPENT IN OTHER EXTRA-CURRICULAR ACTIVITIES/
           T53 WEEKLY HOURS SPENT WORKING-SELF-EMPLOYED/
           T54 WEEKLY HOURS SPENT WORKING FOR EMPLOYER OTHER THAN SCHOOL/
           T55 WEEKLY HOURS SPENT BACKGROUND READING IN SUBJECT AREA/
           T56 WEEKLY HOURS SPENT OTHER BACKGROUND READING/
           T57 WEEKLY HOURS SPENT DEVELOPING MATERIALS FOR SPECIAL NEEDS STU/
           T58 WEEKLY HOURS SPENT IN ADDITIONAL PROFESSIONAL TRAINING/
           T59 WEEKLY HOURS SPENT IN PREPARING AND REVIEWING IEPS/
           T60 TIMES SUPERVISOR OBSERVED TEACHING LAST YEAR/
           T61 MONTHLY HOURS SPENT CONFERRING ABOUT STUDENTS TEST,ATTITUDES/
           T62 MONTHLY HOURS SPENT PREPARING IEPS/
           T63 MONTHLY HOURS SPENT ON CAREER GUIDANCE ACTIVITIES/
           T64 WORK FULL-TIME OR PART-TIME/
           T65 MONTHS PAID FOR/
           T66 SALARY RANGE/
           T67 COURSES TAKEN IN TECHNIQUES FOR TEACHING GIFTED/
           T68 COURSES TAKEN IN TECHNIQUES FOR TEACHING HANDICAPPED/
           T69 COURSES TAKEN IN COMMUNICATIONS-LANGUAGE ARTS/
           T70 COURSES TAKEN IN WORKING WITH LEP-BILINGUAL/
           T71 COURSES TAKEN IN TEACHING DROPOUT PRONE STUDENTS/
           T72 COURSES TAKEN IN TEACHING PRGMS NONTRADITIONAL FOR SEX/
           T73 COURSES TAKEN IN TEACHING BASIC SKILLS IN SUBJECT AREA/
           T74 COURSES TAKEN IN TEACHING MATHEMATICS/
           T75 COURSES TAKEN IN ADDRESSING NEEDS OF SINGLE PARENTS/
           T76 % PARENTS TALKED TO LAST YEAR/
           T77 HALF-DAYS SPENT IN INSERVICE FOR WHOLE SCHOOL STAFF/
           T78 HALF-DAYS SPENT IN INSERVICE FOR SMALL GROUP/
           T79 HOURS OF INSERVICE IN TECHNIQUES FOR TEACHING GIFTED/
           T80 HOURS OF INSERVICE IN TEACHING HANDICAPPED/
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T81 HOURS OF INSERVICE IN WORKING WITH LEP-BILINGUAL/
T82 HOURS OF INSERVICE TEACHING DROPOUTS/
T83 HOURS OF INSERVICE WORKING IN PRGMS NONTRADITIONAL FOR SEX/
T84 HOURS OF INSERVICE FOR ADDRESSING NEEDS OF SINGLE PARENTS/
T85 HOURS OF INSERVICE FOR TEACHING BASIC SKILLS IN SUBJECT AREA/
T86 RATE INSERVICE APPROACH-INDIVIDUAL ADVICE/
T87 RATE INSERVICE APPROACH-INDIVIDUALIZED TEACHING/
T88 RATE INSERVICE APPROACH-OBSERVATION OF SUCCESSFUL PROGRAMS/
T89 RATE INSERVICE APPROACH-WORKSHOPS/
T90 RATE INSERVICE APPROACH-COURSES/
T91 RATE INSERVICE APPROACH-ON THE JOB EXPERIENCES(INTERNSHIPS)/
T92 PREFERENCE FOR INSERVICE-PROFESSIONAL DAYS/
T93 PREFERENCE FOR INSERVICE-MORNINGS BEFORE SCHOOL/
T94 PREFERENCE FOR INSERVICE-AFTERNOONS AFTER SCHOOL/
T95 PREFERENCE FOR INSERVICE-EVENING AFTER SCHOOL/
T96 PREFERENCE FOR INSERVICE-WEEKEND/
T97 PREFERENCE FOR INSERVICE-SUMMER WEEKDAYS/
T98 STAFF IN SCHOOL DONT HAVE SCHOOL SPIRIT/
T99 LEVEL OF STUDENT MISBEHAVIOR HIGH/
T100 USE OF DRUGS-ALCOHOL IN SCHOOL BELOW NATIONAL AVERAGE/
T101 STUDENTS TARDINESS AND CLASS CUTTING VERY PREVALENT/
T102 ATTITUDES OF STUDENTS NOT CONDUCTIVE TO LEARNING/
T103 SCHOOL SEEMS LIKE A BIG FAMILY/
T104 LITTLE COOPERATION BETWEEN STAFF AND STUDENTS/
T105 VERY POSITIVE CLIMATE EXISTS IN SCHOOL/
T106 STAFF HAVE MANY OPPORTUNITIES FOR INSERVICE/
T107 STAFF SUPPORTS NEED TO MAINSTREAM HANDICAPPED STUDENTS/
T108 IMPORTANCE OF ABSOLUTE LEVEL OF ACHIEVEMNT WHEN GRADING/
T109 IMPORTANCE OF RELATIVE LEVEL OF ACHIEVEMNT WHEN GRADING/
T110 IMPORTANCE OF INDIVIDUAL IMPROVEMENT WHEN GRADING/
T111 IMPORTANCE OF EFFORT WHEN GRADING/
T112 IMPORTANCE OF CLASS PARTICIPATION WHEN GRADING/
T113 RATE STUDENTS IN READING/
T114 RATE STUDENTS IN WRITING/
T115 HOW MANY EXAMINATION PER GRADING PERIOD/
T116 HOW MANY QUIZZES PER GRADING PERIOD/
T117 HOW MANY MINUTES OF HOMEWORK FOR EACH CLASS PER IOD/
T118 HOW MANY WRITING ASSIGNMENTS PER MONTH/
T119 TEACHING TIME PER WEEK SPENT REINFORCING READING SKILLS/
T120 TEACHING TIME PER WEEK SPENT REINFORCING MATH SKILLS/
T121 TEACHING TIME PER WEEK SPENT REINFORCING WRITING SKILLS/
T122 TEACHING TIME PER WEEK SPENT REINGORCING LANGUAGE SKILLS/
T123 % CLASS SPENT ON ROUTINE ACTIVITIES/
T124 % CLASS SPENT GETTING STUDENTS TO BEHAVE, BE QUIET ETC/
T125 % CLASS SPENT ON INSTRUCTION/
T126 % CLASS SPENT ON STUDENT PRACTICE OF SKILLS/
T127 % CLASS SPENT ON OTHER ACTIVITIES/
T128 % STUDENTS FORMALLY RECOGNIZED FOR PERFORMANCE DURING LAST YR/
T129 MINUTES PER WEEK SPENT PRACTICING SPECIFIC VOCATIONAL SKILLS/
T130 MINUTES PER WEEK SPENT LEARNING VIA AUDIOVISUALS/
T131 MINUTES PER WEEK SPENT WATCHING DEMONSTRATIONS/
T132 MINUTES PER WEEK SPENT LISTENING TO LECTURES/
T133 MINUTES PER WEEK SPENT APPLYING MATH TO PRACTICAL PROBLEMS/
T134 MINUTES PER WEEK SPENT READING COURSE RELATED MATERIALS/
T135 MINUTES PER WEEK SPENT COMPLETING TESTS/
T136 MINUTES PER WEEK SPENT WRITING/
T137 MINUTES PER WEEK SPENT SPEAKING, MAKING PRESENTATIONS/
T138 MINUTES PER WEEK SPENT ON OTHER ACTIVITIES/
T139 TOTAL MINUTES CLASS MEETS PER WEEK/
T140 % FEMALES IN CLASS/
T141 % MALES IN CLASS/
T142 % WHITE IN CLASS/
T143 % BLACK IN CLASS/
T144 % HISPANIC IN CLASS/
T145 % OTHER MINORITIES IN CLASS/
T146 % HANDICAPPED IN CLASS/
T147 % LIMITED ENGLISH PROFICIENT IN CLASS/
T148 % ECONOMICALLY DISADVANTAGED IN CLASS/
T149 % SINGLE PARENTS IN CLASS/
T150 % OF HANDICAPPED FOR WHICH REVIEWED IEP/
T151 % OF HANDICAPPED FOR WHICH HELPED PREPARE IEP/
T152 TEACH VOATIONAL COURSES/
T153 % DROP OUT OF PROGRAM BUT NOT OF SCHOOL/
T154 % DROP OUT OF PROGRAM AND SCHOOL/
T155 ARE THERE STUDENTS IN PROGRAM WHO ARE RETURNERS/
T156 % OF STUDENTS WHO ARE RETURNERS/
T157 RANK GOAL- PLACEMENT IN JOBS RELATED TO TRAINING/
T158 RANK GOAL- PROVIDE COMPETENCIES FOR JOBS/
T159 RANK GOAL- PLACEMENT REGARDLESS OF TRAINING RELATEDNESS/
T160 RANK GOAL- ENHANCE AWARENESS OF VARIOUS JOBS/
T161 RANK GOAL- OCCUPATION EXPLORATION/
T162 RANK GOAL- HELP DEVELOP WORK ETHIC/
T163 RANK GOAL- REINFORCE BASIC SKILLS/
T164 RANK GOAL- PROMOTE ACCESS AND EQUITY/
T165 IS THERE SCHOOL SPONSORED JOB PLACEMENT SERVICE/
T166 CURRENT JOB INFORMATION AVAILABLE TO STUDENTS/
T167 SUMMER JOB FINDING SERVICE AVAILABLE/
T168 PART-TIME NON-COOP JOB FINDING SERVICE AVAILABLE/
T169 PART-TIME COOP JOB FINDING SERVICE AVAILABLE/
T170 FINDING JOBS FOR STUDENTS ABOUT TO GRADUATE AVA ILABLE/

T171 FINDING WORK STATIONS FOR CAREER EXPLOARTION AVAILABLE/
T172 MORE STUDENTS APPLY TO PROGRAM THAN THERE AREOPENINGS/
T173 ADVISORY GROUP ARRANGEMENT/
T174 SOURCE USED FOR PGM: STATE PLAN FOR VOC ED/
T175 SOURCE USED FOR PGM: STATE EMPLYER PLAN/
T176 SOURCE USED FOR PGM: STATE OCC.INFO. COORDINATING COMMITTEE/
T177 SOURCE USED FOR PGM: STATE EMPLOYMENT SERVICES/
T178 SOURCE USED FOR PGM: TECHNICAL ADVISORY GROUP/
T179 SOURCE USED FOR PGM: SURVEYS OF LOCAL EMPLOYERS/
T180 SOURCE USED FOR PGM: LOCAL OCCUPATIONAL PUBLICATION/
T181 WOULD USE FOR REVISING PGM: STATE INSTRUCTIONAL MATERIALS LAB/
T182 WOULD USE FOR REVISING PGM: CURRICULUM CENTER FOR REGION/
T183 WOULD USE FOR REVISING PGM: EDUCATIONAL PUBLISHERS/
T184 WOULD USE FOR REVISING PGM: COMMERCIAL PUBLISHERS/
T185 WOULD USE FOR REVISING PGM: RESEARCH & DEVELOP. AGENCIES/
T186 WOULD USE FOR REVISING PGM: LOCAL TEACHER MADE MATERIALS/
T187 DOLLAR VALUE OF DONATED EQUIPMENT/
T188 PROGRAM NOT COMPETENCY BASED/
T189 COMPETENCY BASED USED: PROGRAM CHARTS/
T190 COMPETENCY BASED PGM USES: MASTERY CHARTS/
T191 COMPETENCY BASED PGM USES: COMPUTER RECORDING AND FEEDBACK/
T192 COMPETENCY BASED PGM USES: STANDARDIZED WRITTEN TEST/
T193 COMPETENCY BASED PGM USES: STANDARDIZED SKILL PERFORMANCE TST/
T194 COMPETENCY BASED PGM USES: TEACHER CONSTRUCTED WRITTEN TESTS/
T195 COMPETENCY BASED PGM USES: TEACHER CONSTRUCTED SKILLSTEST/
T196 COMPETENCY BASED PGM USES: INFORMAL TEACHER JUDGEMENTS/
T197 COMPETENCY BASED PGM USES: RATINGS BY EMPLOYERS/
T198 COMPETENCY BASED PGM USES: OTHER STRATEGIES/
T199 COMPETENCY TEST REQ. BY STATE BOARD FOR COSMETOLOGY/
T200 COMPETENCY TEST REQ. BY STATE BOARD FOR HEALTH OCCUPATIONS/
T201 COMPETENCY TEST REQ. BY STATE BOARD FOR AVIATION/
T202 COMPETENCY TEST REQ. BY STATE BOARD FOR PLUMBING/
T203 COMPETENCY TEST REQ. BY STATE BOARD FOR OTHER OCCUPATIONS/
T204 SCHOOL HAS COOPERATIVE EDUCATION COORDINATORS/
T205 VOCATIONAL TEACHERS GIVEN RELEASED TIME TO VISIT EMPLOYERS/
T206 HOW MANY HOURS RELEASED TIME GIVEN VOC TEACHER TO VISIT EMP/
T207 MICROCOMPUTER OPERATIONS TRAINING PROVIDED/
T208 MAINFRAME COMPUTER OPERATIONS TRAINING PROVIDED/
T209 COMPUTER PROGRAMMING TRAINING PROVIDED/
T210 COMPUTER ASSISTED DESIGN TRAINING PROVIDED/
T211 COMPUTER CONTROLLED MACHINES TRAINING PROVIDED/
T212 COMPUTER BASED WORD PROCESSING TRAINING PROVIDED/
T213 STUDENTS REQUIRED TO COMPLETE WORK-STUDY EXPERIENCE/
T214 EMPLOYERS INFLUENCE ON GRADES/
T215 EXTENT OF EMPLOYERS INFLUENCE IN DETERMINING CURRICULUM GOALS/
T216 EXTENT OF EMPLOYERS INFLUENCE IN DETERMINING CURRIC. CONTENT/
T217 EXTENT OF EMPLOYERS INFLUENCE IN ASSESSING RELEVANCE/
T218 EXTENT OF EMPLOYERS INFLUENCE IN PROGRAM OFFERING/
T219 EXTENT OF EMPLOYERS INFLUENCE IN DEVELOPING TRAINING SITES/
T220 EXTENT OF EMPLOYERS INFLUENCE IN CHANGES DUE TO TECH.ADVANCES/
T221 EXTENT OF EMPLOYERS INFLUENCE IN RECOMMENDING EQUIPMENT/
T222 EXTENT OF EMPLOYERS INFLUENCE IN PROVIDING EQUIPMENT/
T223 EXTENT OF EMPLOYERS INFLUENCE IN AFFIRMATIVE ACTIONS CONCERNS/
T224 LAST 3 YEARS INTERVIEWED EMPLOYERS/
T225 LAST 3 YEARS INTERVIEWED FORMER STUDENTS/
T226 LAST 3 YEARS SYSTEMATICALLY DEVELOPED TRAINING SITES/
T227 LAST 3 YEARS INTERACTED WITH BASIC SKILLS SPECIALIST/
T228 RANK RESPONSIBILITY FOR FINDING JOBS: ADMINISTRATION/
T229 RANK RESPONSIBILITY FOR FINDING JOBS: GUIDANCE STAFF/
T230 RANK RESPONSIBILITY FOR FINDING JOBS: MYSELF/
T231 RANK RESPONSIBILITY FOR FINDING JOBS: OTHER TEACHERS/
T232 RANK RESPONSIBILITY FOR FINDING JOBS: PUBLIC EMP. SERVICE/
T233 RANK RESPONSIBILITY FOR FINDING JOBS: SCH. PLACEMENT SERV/
T234 RANK RESPONSIBILITY FOR FINDING JOBS: STUDENTS/
T235 CLASS HOURS DEVOTED TO LEARNING HOW TO FIND JOBS/
T236 CLASS HOURS DEVOTED TO LEARNING ABOUT EMPLOYER EXPECTATIONS/
T237 CLASS HOURS DEVOTED TO ENGAGING IN CAREER PLANNING/
T238 HOW CURRENT IS EQUIPMENT IN PROGRAM/
T239 IS INDIVIDUALIZED TEACHING INTEGRAL PART OF PROGRAM/
T240 REMEDIAL READING AVAILABLE/
T241 REMEDIAL MATH AVAILABLE/
T242 PROGRAMS TO INCREASE PARENT INVOLVEMENT AVAILABLE/
T243 LIFE SKILLS INSTRUCTION AVAILABLE/
T244 INDIVIDUALIZED AND INTENSIVE COUNSELING AVAILABLE/
T245 TUTORIAL ASSISTANCE AVAILABLE/
T246 ADAPTIVE EQUIPMENT -MATERIALS FOR HANDICAPPED AVAILABLE/
T247 REFERRAL SERVICES AVAILABLE/
T248 GRADE POINT CONSIDERED FOR ADMISSION TO PROGRAM/
T249 PERSONAL INTERVIEW CONSIDERED FOR ADMISSION TO PROGRAM/
T250 CAREER OBJECTIVES CONSIDERED FOR ADMISSION TO PROGRAM/
T251 ANY STUDENT MAY ENROLL/
T252 OTHER CONSIDERATIONS FOR ADMISSION/
T253 DURING LAST 2 YEARS WORKED AT NONTEACHING JOB/
T254 AWARE OF NCRVE/
T255 EVER PURCHASED MATERIAL FROM NCRVE/
T256 NUMBER PRODUCTS PURCHASED/
T257 NCRVE PRODUCTS HELPED/
T258 HOURS PER WEEK STUDENTS SPEND ON HIGH-ORDER COGNITIVE SKILLS/
T259 LAST 5 YEARS PERCENTAGE OF STUDENTS ENTERED MILITARY/
T260 LAST 5 YEARS PERCENTAGE OF STUDENTS ENROLLED 4YR UNIVERSITY/

T261 LAST 5 YEARS PERCENTAGE OF STUDENTS ENROLLED 2YR COLLEGE/

T262 LAST 5 YEARS PERCENTAGE OF STUDENTS ENTERED LABOR FORCE/
T263 WITHIN LAST 3 YEARS REQUIRED TO TAKE COMPETENCY EXAM/
T264 PREFERENCE/
T265 PREFERENCE/
T266 PREFERENCE/
T267 PREFERENCE/

CLASSROOM FILE RECORD LAYOUT

CLASSROOM DATABASE

DESCRIPTION	VAR #
SCHOOL ID	1
SMSA	2
STATE CODE	3
TYPE OF DATA	4
INTERVIEWER ID	5
COURSE CODE	6
TEACHER ID	7
PROGRAM AREA	8
SCHOOL TYPE	9
SETTING	10

CLASSROOM OBSERVATION

TIME CLASS STARTS	11
TIME CLASS ENDS	12
NUMBER OF STUDENTS IN CLASS	13
NUMBER OF STUDENTS WHO ARE FEMALE	14
NUMBER OF STUDENTS WHO ARE MALE	15
NUMBER OF STUDENTS WHO ARE IN 9TH GRADE OR LESS	16
NUMBER OF STUDENTS WHO ARE IN 10TH GRADE	17
NUMBER OF STUDENTS WHO ARE IN 11TH GRADE	18
NUMBER OF STUDENTS WHO ARE IN 12TH GRADE	19
NUMBER OF STUDENTS WHO ARE WHITE	20
NUMBER OF STUDENTS WHO ARE BLACK	21
NUMBER OF STUDENTS WHO ARE HISPANIC	22
NUMBER OF STUDENTS WHO ARE OTHER MINORITY	23
NUMBER OF STUDENTS WHO ARE MENTALLY HANDICAPPED	24
NUMBER OF STUDENTS WHO ARE PHYSICALLY HANDICAPPED	25
NUMBER OF STUDENTS WHO ARE BOTH PHYS. AND MENTALLY HANDICAPPED	26
NUMBER OF STUDENTS WHO ARE CLASSIFIED AS LIMITED ENGLISH PROFICIENT	27
DESKS AVAILABLE IN PRIMARY WORK AREA(S)	28
WORKBENCH/WORKSTATION AVAILABLE IN PRIMARY WORK AREA(S)	29
TELEPHONE AVAILABLE IN PRIMARY WORK AREA(S)	30
COMPUTER AVAILABLE IN PRIMARY WORK AREA(S)	31
AV EQUIPMENT AVAILABLE IN PRIMARY WORK AREA(S)	32
MANUALS (PART OF COURSE) AVAILABLE IN PRIMARY WORK AREA(S)	33
MANUALS (FOR REFERENCE) AVAILABLE IN PRIMARY WORK AREA(S)	34
'SUPPORT' MATERIALS (IN FOREIGN LANGUAGE) AVAILABLE	35
FILES AVAILABLE IN PRIMARY WORK AREA(S)	36
TEXTBOOKS (PART OF COURSE) AVAILABLE IN PRIMARY WORK AREA(S)	37
TEXTBOOKS (FOR REFERENCE) AVAILABLE IN PRIMARY WORK AREA(S)	38
TYPEWRITER AVAILABLE IN PRIMARY WORK AREA(S)	39
TASK-RELATED WORKSHEETS AVAILABLE IN PRIMARY WORK AREA(S)	40
WORKBOOKS (PART OF COURSE) AVAILABLE IN PRIMARY WORK AREA(S)	41
MULTI-MEDIA 'SUPPORT' MATERIALS (TECHNICAL) AVAILABLE IN WORK AREA	42
BASIC TOOL 'SETS' AVAILABLE IN PRIMARY WORK AREA(S)	43
SPECIAL TOOLS AVAILABLE IN PRIMARY WORK AREA(S)	44
'SUPPORT' MATERIALS (BASIC SKILLS) AVAILABLE IN PRIMARY WORK AREA	45
MACHINES (JOB SPECIFIC) AVAILABLE IN PRIMARY WORK AREA(S)	46
LANGUAGE MASTER AVAILABLE IN PRIMARY WORK AREA(S)	47
CHALKBOARD AVAILABLE IN PRIMARY WORK AREA(S)	48
OTHER MATERIALS/TOOLS AVAILABLE IN PRIMARY WORK AREA(S)	49
OTHER MATERIALS/TOOLS AVAILABLE IN PRIMARY WORK AREA(S)	50

MONTH 1ST OBSERVATION		51
DAY 1ST OBSERVATION		52
MONTH 2ND OBSERVATION		53
DAY 2ND OBSERVATION		54
COMMENTS OBS. 1 & 2		
	: UNUSUAL STATUS OF OBSERVATION	55
	: UNUSUAL STATUS OF OBSERVATION	56
	: COMMENT #1	57
	: COMMENT #2	58
	: COMMENT #3	59
	: COMMENT #4	60
	: COMMENT #5	61
	: COMMENT #6	62
	: COMMENT #7	63
	: COMMENT #8	64

CLASSROOM DATABASE

CLASSROOM OBSERVATION

DESCRIPTION		VAR #
OBSERVATION #1	: NUMBER OF SNAPSHOTS TAKEN	65
	: # INSTRUCTIONAL EPISODES -SNAPSHOT A	66
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT A	67
	: # INSTRUCTIONAL EPISODES -SNAPSHOT B	68
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT B	69
	: # INSTRUCTIONAL EPISODES -SNAPSHOT C	70
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT C	71
	: # INSTRUCTIONAL EPISODES -SNAPSHOT D	72
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT D	73
	: # INSTRUCTIONAL EPISODES -SNAPSHOT E	74
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT E	75
	: # INSTRUCTIONAL EPISODES -SNAPSHOT F	76
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT F	77
	: # MATERIALS /TOOLS LISTED	78
	: TIME OBSERVATION BEGAN	79
	: LENGTH OF OBSERVATION IN MINUTES	80
	: FORMAT OF CLASS DURING OBSERVATION	81
	: HOW DATED PRINTED MATERIALS	82
	: HOW DATED TOOLS	83
	: HOW DATED CONCEPTS TAUGHT	84
	: % TIME SPENT ON COGNITIVE SKILLS	85
	: % TIME SPENT ON AFFECTIVE SKILLS	86
	: % TIME SPENT ON PSYCHOMOTOR SKILLS	87
	: % TIME SPENT OFF TASK	88
	: % TIME SPENT ON OTHER SKILLS	89
	: TEACHER MAINTAINS ATTENTION OF STUDENTS	90
	: TEACHER ENCOURAGES STUDENT PARTICIPATION	91
	: TEACHER CHECKS STUDENTS PROGRESS	92
	: TEACHER ENCOURAGES QUESTIONS	93
	: TEACHER USES TRAINING AIDS EFFECTIVELY	94
	: FREQUENCY OF FEEDBACK	95
	: NATURE OF FEEDBACK	96
	: NATURE OF NEGATIVE FEEDBACK	97
	: OPEN/ENDED TESTS OR QUIZZES USED	98
	: CLOSED ENDED TESTS OR QUIZZES USED	99
	: PERFORMANCE ASSESSMENT PROCESS USED	100
	: PERFORMANCE ASSESSMENT PRODUCT USED	101
	: STUDENTS INVOLVED IN PROJECTS	102

DESCRIPTION

			VAR #
OBSERVATION # 1			
TIME TAKEN	- SNAPSHOT	A	154
LOCATION	- SNAPSHOT	A	155
#STUDENTS PRESENT	- SNAPSHOT	A	156
MOST POSITIVE EPISODE	- SNAPSHOT	A	157
MOST NEGATIVE EPISODE	- SNAPSHOT	A	158
TIME TAKEN	- SNAPSHOT	B	159
LOCATION	- SNAPSHOT	B	160
#STUDENTS PRESENT	- SNAPSHOT	B	161
MOST POSITIVE EPISODE	- SNAPSHOT	B	162
MOST NEGATIVE EPISODE	- SNAPSHOT	B	163
TIME TAKEN	- SNAPSHOT	C	164
LOCATION	- SNAPSHOT	C	165
#STUDENTS PRESENT	- SNAPSHOT	C	166
MOST POSITIVE EPISODE	- SNAPSHOT	C	167
MOST NEGATIVE EPISODE	- SNAPSHOT	C	168
TIME TAKEN	- SNAPSHOT	D	169
LOCATION	- SNAPSHOT	D	170
#STUDENTS PRESENT	- SNAPSHOT	D	171
MOST POSITIVE EPISODE	- SNAPSHOT	D	172
MOST NEGATIVE EPISODE	- SNAPSHOT	D	173
TIME TAKEN	- SNAPSHOT	E	174
LOCATION	- SNAPSHOT	E	175
#STUDENTS PRESENT	- SNAPSHOT	E	176
MOST POSITIVE EPISODE	- SNAPSHOT	E	177
MOST NEGATIVE EPISODE	- SNAPSHOT	E	178
TIME TAKEN	- SNAPSHOT	F	179
LOCATION	- SNAPSHOT	F	180
#STUDENTS PRESENT	- SNAPSHOT	F	181
MOST POSITIVE EPISODE	- SNAPSHOT	F	182
MOST NEGATIVE EPISODE	- SNAPSHOT	F	183
OBSERVATION # 2			
TIME TAKEN	- SNAPSHOT	G	184
LOCATION	- SNAPSHOT	G	185
#STUDENTS PRESENT	- SNAPSHOT	G	186
MOST POSITIVE EPISODE	- SNAPSHOT	G	187
MOST NEGATIVE EPISODE	- SNAPSHOT	G	188
TIME TAKEN	- SNAPSHOT	H	189
LOCATION	- SNAPSHOT	H	190
#STUDENTS PRESENT	- SNAPSHOT	H	191
MOST POSITIVE EPISODE	- SNAPSHOT	H	192
MOST NEGATIVE EPISODE	- SNAPSHOT	H	193
TIME TAKEN	- SNAPSHOT	I	194
LOCATION	- SNAPSHOT	I	195
#STUDENTS PRESENT	- SNAPSHOT	I	196
MOST POSITIVE EPISODE	- SNAPSHOT	I	197
MOST NEGATIVE EPISODE	- SNAPSHOT	I	198
TIME TAKEN	- SNAPSHOT	J	199
LOCATION	- SNAPSHOT	J	200
#STUDENTS PRESENT	- SNAPSHOT	J	201
MOST POSITIVE EPISODE	- SNAPSHOT	J	202
MOST NEGATIVE EPISODE	- SNAPSHOT	J	203
TIME TAKEN	- SNAPSHOT	K	204
LOCATION	- SNAPSHOT	K	205
#STUDENTS PRESENT	- SNAPSHOT	K	206

	: TYPE OF PROJECTS IN WHICH INVOLVED	103
	: HOW MUCH ACCOMPLISHED DURING OBSERVATION	104
	: STUDENTS REQUIRED TO DEMONSTRATE APPLICATION	105
	: STUDENTS REQUIRED TO DEMONSTRATE ANALYSIS	106
	: STUDENTS REQUIRED TO DEMONSTRATE SYNTHESIS	107
	: STUDENTS REQUIRED TO DEMONSTRATE EVALUATION	108

CLASSROOM DATABASE

CLASSROOM OBSERVATION

DESCRIPTION		VAR #
OBSERVATION #2	: NUMBER OF SNAPSHOTS TAKEN	109
	: # INSTRUCTIONAL EPISODES -SNAPSHOT G	110
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT G	111
	: # INSTRUCTIONAL EPISODES -SNAPSHOT H	112
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT H	113
	: # INSTRUCTIONAL EPISODES -SNAPSHOT I	114
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT I	115
	: # INSTRUCTIONAL EPISODES -SNAPSHOT J	116
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT J	117
	: # INSTRUCTIONAL EPISODES -SNAPSHOT K	118
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT K	119
	: # INSTRUCTIONAL EPISODES -SNAPSHOT L	120
	: # NON-INSTRUCTIONAL EPISODES -SNAPSHOT L	121
	: # MATERIALS /TOOLS LISTED	122
	: TIME OBSERVATION BEGAN	123
	: LENGTH OF OBSERVATION IN MINUTES	124
	: FORMAT OF CLASS DURING OBSERVATION	125
	: HOW DATED PRINTED MATERIALS	126
	: HOW DATED TOOLS	127
	: HOW DATED CONCEPTS TAUGHT	128
	: % TIME SPENT ON COGNITIVE SKILLS	129
	: % TIME SPENT ON AFFECTIVE SKILLS	130
	: % TIME SPENT ON PSYCHOMOTOR SKILLS	131
	: % TIME SPENT OFF TASK	132
	: % TIME SPENT ON OTHER SKILLS	133
	: TEACHER MAINTAINS ATTENTION OF STUDENTS	134
	: TEACHER ENCOURAGES STUDENT PARTICIPATION	135
	: TEACHER CHECKS STUDENTS PROGRESS	136
	: TEACHER ENCOURAGES QUESTIONS	137
	: TEACHER USES TRAINING AIDS EFFECTIVELY	138
	: FREQUENCY OF FEEDBACK	139
	: NATURE OF FEEDBACK	140
	: NATURE OF NEGATIVE FEEDBACK	141
	: OPEN/ENDED TESTS OR QUIZZES USED	142
	: CLOSED ENDED TESTS OR QUIZZES USED	143
	: PERFORMANCE ASSESSMENT PROCESS USED	144
	: PERFORMANCE ASSESSMENT PRODUCT USED	145
	: STUDENTS INVOLVED IN PROJECT	146
	: TYPE OF PROJECTS IN WHICH INVOLVED	147
	: HOW MUCH ACCOMPLISHED DURING OBSERVATION	148
	: STUDENTS REQUIRED TO DEMONSTRATE APPLICATION	149
	: STUDENTS REQUIRED TO DEMONSTRATE ANALYSIS	150
	: STUDENTS REQUIRED TO DEMONSTRATE SYNTHESIS	151
	: STUDENTS REQUIRED TO DEMONSTRATE EVALUATION	152
BLANK		153

CLASSROOM OBSERVATION

MOST POSITIVE EPISODE - SNAPSHOT	K		207
MOST NEGATIVE EPISODE - SNAPSHOT	K		208
TIME TAKEN - SNAPSHOT	L		209
LOCATION - SNAPSHOT	L		210
#STUDENTS PRESENT - SNAPSHOT	L		211
MOST POSITIVE EPISODE - SNAPSHOT	L		212
MOST NEGATIVE EPISODE - SNAPSHOT	L		213
BLANK			214

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # A	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	215
CONTENT AREA OR FOCAL TOPIC	216
NUMBER OF STUDENTS INVOLVED	217
HOW ARE STUDENTS GROUPED	218
TEACHING ACTIVITY INVOLVED AV	219
TEACHING ACTIVITY INVOLVED DISCUSSION	220
TEACHING ACTIVITY INVOLVED LECTURE	221
TEACHING ACTIVITY INVOLVED DEMONSTRATION	222
TEACHING ACTIVITY INVOLVED SIMULATION	223
TEACHING ACTIVITY INVOLVED WRITTEN WORK	224
TEACHING ACTIVITY INVOLVED READING	225
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	226
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	227
TEACHING ACTIVITY INVOLVED TAKING TEST	228
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	229
TEACHING ACTIVITY INVOLVED OTHER METHODS	230
NO MATERIALS ARE INVOLVED	231
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	232
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	233
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	234
TYPES OF MATERIALS USED INCLUDE TEST	235
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	236
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	237
OTHER TYPES OF MATERIALS ARE BEING USED	238
WERE "AT RISK" STUDENTS INVOLVED	239
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	240
TYPE OF EVENT OBSERVED	241
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	242
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	243
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	244
INTERACTIONS OBSERVED	245
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	246
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	247
ADEQUATE QUANTITIES/TYPES MATERIALS	248
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	249
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	250
STUDENTS REQUIRED TO WRITE	251
STUDENTS REQUIRED TO SPEAK	252
DID STUDENTS RECEIVE FEEDBACK	253
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	254
CONTENT AREA OR FOCAL TOPIC	255
NUMBER OR STUDENTS INVOLVED	256
HOW ARE STUDENTS GROUPED	257
TEACHING ACTIVITY INVOLVED AV	258

TEACHING ACTIVITY INVOLVED DISCUSSION	259
TEACHING ACTIVITY INVOLVED LECTURE	260
TEACHING ACTIVITY INVOLVED DEMONSTRATION	261
TEACHING ACTIVITY INVOLVED SIMULATION	262
TEACHING ACTIVITY INVOLVED WRITTEN WORK	263
TEACHING ACTIVITY INVOLVED READING	264
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	265
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	266
TEACHING ACTIVITY INVOLVED TAKING TEST	267
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	268
TEACHING ACTIVITY INVOLVED OTHER METHODS	269
NO MATERIALS ARE INVOLVED	270
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	271
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	272
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	273
TYPES OF MATERIALS USED INCLUDE TEST	274
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	275
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	276
OTHER TYPES OF MATERIALS ARE BEING USED	277
WERE STUDENTS 'AT RISK' INVOLVED	278
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	279
TYPE OF EVENT OBSERVED	280
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	281
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	282
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	283
INTERACTIONS OBSERVED	284

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # A	
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	285
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	286
ADEQUATE QUANTITIES/TYPES MATERIALS	287
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	288
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	289
STUDENTS REQUIRED TO WRITE	290
STUDENTS REQUIRED TO SPEAK	291
DID STUDENTS RECEIVE FEEDBACK	292
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	293
CONTENT AREA OR FOCAL TOPIC	294
NUMBER OR STUDENTS INVOLVED	295
HOW ARE STUDENTS GROUPED	296
TEACHING ACTIVITY INVOLVED AV	297
TEACHING ACTIVITY INVOLVED DISCUSSION	298
TEACHING ACTIVITY INVOLVED LECTURE	299
TEACHING ACTIVITY INVOLVED DEMONSTRATION	300
TEACHING ACTIVITY INVOLVED SIMULATION	301
TEACHING ACTIVITY INVOLVED WRITTEN WORK	302
TEACHING ACTIVITY INVOLVED READING	303
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	304
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	305
TEACHING ACTIVITY INVOLVED TAKING TEST	306
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	307
TEACHING ACTIVITY INVOLVED OTHER METHODS	308
NO MATERIALS ARE INVOLVED	309
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	310

TYPES OF MATERIALS USED INCLUDE WORKSHEETS	311
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	312
TYPES OF MATERIALS USED INCLUDE TEST	313
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	314
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	315
OTHER TYPES OF MATERIALS ARE BEING USED	316
WERE STUDENTS 'AT RISK' INVOLVED	317
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	318
TYPE OF EVENT OBSERVED	319
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	320
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	321
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	322
INTERACTIONS OBSERVED	323
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	324
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	325
ADEQUATE QUANTITIES/TYPES MATERIALS	326
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	327
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	328
STUDENTS REQUIRED TO WRITE	329
STUDENTS REQUIRED TO SPEAK	330
DID STUDENTS RECEIVE FEEDBACK	331
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	332
CONTENT AREA OR FOCAL TOPIC	333
NUMBER OR STUDENTS INVOLVED	334
HOW ARE STUDENTS GROUPED	335
TEACHING ACTIVITY INVOLVED AV	336
TEACHING ACTIVITY INVOLVED DISCUSSION	337
TEACHING ACTIVITY INVOLVED LECTURE	338
TEACHING ACTIVITY INVOLVED DEMONSTRATION	339
TEACHING ACTIVITY INVOLVED SIMULATION	340
TEACHING ACTIVITY INVOLVED WRITTEN WORK	341
TEACHING ACTIVITY INVOLVED READING	342
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	343
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	344
TEACHING ACTIVITY INVOLVED TAKING TEST	345
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	346
TEACHING ACTIVITY INVOLVED OTHER METHODS	347
NO MATERIALS ARE INVOLVED	348
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	349
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	350
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	351
TYPES OF MATERIALS USED INCLUDE TEST	352
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	353
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	354

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # A	
OTHER TYPES OF MATERIALS ARE BEING USED	355
WERE STUDENTS 'AT RISK' INVOLVED	356
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	357
TYPE OF EVENT OBSERVED	358
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	359
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	360
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	361
INTERACTIONS OBSERVED	362

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	363
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	364
ADEQUATE QUANTITIES/TYPES MATERIALS	365
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	366
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	367
STUDENTS REQUIRED TO WRITE	368
STUDENTS REQUIRED TO SPEAK	369
DID STUDENTS RECEIVE FEEDBACK	370
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	371
CONTENT AREA OR FOCAL TOPIC	372
NUMBER OR STUDENTS INVOLVED	373
HOW ARE STUDENTS GROUPED	374
BLANK	375
WERE STUDENTS 'AT RISK' INVOLVED	376
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	377
TYPE OF EVENT OBSERVED	378
BLANK	379
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	380
CONTENT AREA OR FOCAL TOPIC	381
NUMBER OR STUDENTS INVOLVED	382
HOW ARE STUDENTS GROUPED	383
BLANK	384
WERE STUDENTS 'AT RISK' INVOLVED	385
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	386
TYPE OF EVENT OBSERVED	387
BLANK	388

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # B	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	389
CONTENT AREA OR FOCAL TOPIC	390
NUMBER OF STUDENTS INVOLVED	391
HOW ARE STUDENTS GROUPED	392
TEACHING ACTIVITY INVOLVED AV	393
TEACHING ACTIVITY INVOLVED DISCUSSION	394
TEACHING ACTIVITY INVOLVED LECTURE	395
TEACHING ACTIVITY INVOLVED DEMONSTRATION	396
TEACHING ACTIVITY INVOLVED SIMULATION	397
TEACHING ACTIVITY INVOLVED WRITTEN WORK	398
TEACHING ACTIVITY INVOLVED READING	399
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	400
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	401
TEACHING ACTIVITY INVOLVED TAKING TEST	402
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	403
TEACHING ACTIVITY INVOLVED OTHER METHODS	404
NO MATERIALS ARE INVOLVED	405
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	406
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	407
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	408
TYPES OF MATERIALS USED INCLUDE TEST	409
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	410
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	411
OTHER TYPES OF MATERIALS ARE BEING USED	412
WERE "AT RISK" STUDENTS INVOLVED	413
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	414

TYPE OF EVENT OBSERVED	415
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	416
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	417
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	418
INTERACTIONS OBSERVED	419
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	420
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	421
ADEQUATE QUANTITIES/TYPES MATERIALS	422
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	423
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	424
STUDENTS REQUIRED TO WRITE	425
STUDENTS REQUIRED TO SPEAK	426
DID STUDENTS RECEIVE FEEDBACK	427
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	428
CONTENT AREA OR FOCAL TOPIC	429
NUMBER OR STUDENTS INVOLVED	430
HOW ARE STUDENTS GROUPED	431
TEACHING ACTIVITY INVOLVED AV	432
TEACHING ACTIVITY INVOLVED DISCUSSION	433
TEACHING ACTIVITY INVOLVED LECTURE	434
TEACHING ACTIVITY INVOLVED DEMONSTRATION	435
TEACHING ACTIVITY INVOLVED SIMULATION	436
TEACHING ACTIVITY INVOLVED WRITTEN WORK	437
TEACHING ACTIVITY INVOLVED READING	438
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	439
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	440
TEACHING ACTIVITY INVOLVED TAKING TEST	441
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	442
TEACHING ACTIVITY INVOLVED OTHER METHODS	443
NO MATERIALS ARE INVOLVED	444
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	445
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	446
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	447
TYPES OF MATERIALS USED INCLUDE TEST	448
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	449
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DESCRIPTION	VAR #
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STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	462
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	463
STUDENTS REQUIRED TO WRITE	464
STUDENTS REQUIRED TO SPEAK	465
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TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	467
CONTENT AREA OR FOCAL TOPIC	468
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HOW ARE STUDENTS GROUPED	470
TEACHING ACTIVITY INVOLVED AV	471
TEACHING ACTIVITY INVOLVED DISCUSSION	472
TEACHING ACTIVITY INVOLVED LECTURE	473
TEACHING ACTIVITY INVOLVED DEMONSTRATION	474
TEACHING ACTIVITY INVOLVED SIMULATION	475
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TEACHING ACTIVITY INVOLVED READING	477
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	478
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	479
TEACHING ACTIVITY INVOLVED TAKING TEST	480
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	481
TEACHING ACTIVITY INVOLVED OTHER METHODS	482
NO MATERIALS ARE INVOLVED	483
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	484
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	485
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	486
TYPES OF MATERIALS USED INCLUDE TEST	487
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WERE STUDENTS 'AT RISK' INVOLVED	491
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TYPE OF EVENT OBSERVED	493
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	494
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STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	496
INTERACTIONS OBSERVED	497
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ADEQUATE QUANTITIES/TYPES MATERIALS	500
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	501
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	502
STUDENTS REQUIRED TO WRITE	503
STUDENTS REQUIRED TO SPEAK	504
DID STUDENTS RECEIVE FEEDBACK	505
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CONTENT AREA OR FOCAL TOPIC	507
NUMBER OR STUDENTS INVOLVED	508
HOW ARE STUDENTS GROUPED	509
TEACHING ACTIVITY INVOLVED AV	510
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TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	518
TEACHING ACTIVITY INVOLVED TAKING TEST	519
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	520
TEACHING ACTIVITY INVOLVED OTHER METHODS	521
NO MATERIALS ARE INVOLVED	522
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	523
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	524
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DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	533
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	534
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	535
INTERACTIONS OBSERVED	536
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ADEQUATE QUANTITIES/TYPES MATERIALS	539
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STUDENTS REQUIRED TO WRITE	542
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TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	545
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DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	551
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DESCRIPTION	VAR #
SNAPSHOT # C	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	563
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HOW ARE STUDENTS GROUPED	566
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TEACHING ACTIVITY INVOLVED DISCUSSION	568
TEACHING ACTIVITY INVOLVED LECTURE	569
TEACHING ACTIVITY INVOLVED DEMONSTRATION	570

TEACHING ACTIVITY INVOLVED SIMULATION	571
TEACHING ACTIVITY INVOLVED WRITTEN WORK	572
TEACHING ACTIVITY INVOLVED READING	573
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	574
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	575
TEACHING ACTIVITY INVOLVED TAKING TEST	576
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	577
TEACHING ACTIVITY INVOLVED OTHER METHODS	578
NO MATERIALS ARE INVOLVED	579
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	580
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TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	582
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WERE "AT RISK" STUDENTS INVOLVED	587
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STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	598
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TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	621
TYPES OF MATERIALS USED INCLUDE TEST	622
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TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	624
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DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	627
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HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	630

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ADEQUATE QUANTITIES/TYPES MATERIALS	635
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STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	637
STUDENTS REQUIRED TO WRITE	638
STUDENTS REQUIRED TO SPEAK	639
DID STUDENTS RECEIVE FEEDBACK	640
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TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	652
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	653
TEACHING ACTIVITY INVOLVED TAKING TEST	654
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	655
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NO MATERIALS ARE INVOLVED	657
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	658
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STUDENTS REQUIRED TO WRITE	677
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DID STUDENTS RECEIVE FEEDBACK	679
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TEACHING ACTIVITY INVOLVED AV	683
TEACHING ACTIVITY INVOLVED DISCUSSION	684
TEACHING ACTIVITY INVOLVED LECTURE	685
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TEACHING ACTIVITY INVOLVED WRITTEN WORK	688
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TEACHING ACTIVITY INVOLVED TAKING TEST	692
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	693
TEACHING ACTIVITY INVOLVED OTHER METHODS	694
NO MATERIALS ARE INVOLVED	695
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	696
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	697
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	698
TYPES OF MATERIALS USED INCLUDE TEST	699
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TYPE OF EVENT OBSERVED	705
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HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	707
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ADEQUATE QUANTITIES/TYPES MATERIALS	712
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STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	714
STUDENTS REQUIRED TO WRITE	715
STUDENTS REQUIRED TO SPEAK	716
DID STUDENTS RECEIVE FEEDBACK	717
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	718
CONTENT AREA OR FOCAL TOPIC	719
NUMBER OR STUDENTS INVOLVED	720
HOW ARE STUDENTS GROUPED	721
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WERE STUDENTS 'AT RISK' INVOLVED	723
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	724
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TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	727
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DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	733
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TYPE OF EVENT OBSERVED
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SNAPSHOT # D	VAR #
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HOW ARE STUDENTS GROUPED	740
TEACHING ACTIVITY INVOLVED AV	741
TEACHING ACTIVITY INVOLVED DISCUSSION	742
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TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	749
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NO MATERIALS ARE INVOLVED	753
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	754
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TYPES OF MATERIALS USED INCLUDE CHALKBOARD	758
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	759
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OTHER TYPES OF MATERIALS ARE BEING USED	877
WERE STUDENTS 'AT RISK' INVOLVED	878
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	879
TYPE OF EVENT OBSERVED	880
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	881
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	882
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	883
INTERACTIONS OBSERVED	884
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	885
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	886
ADEQUATE QUANTITIES/TYPES MATERIALS	887
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	888
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	889
STUDENTS REQUIRED TO WRITE	890

STUDENTS REQUIRED TO SPEAK	891
DID STUDENTS RECEIVE FEEDBACK	892
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	893
CONTENT AREA OR FOCAL TOPIC	894
NUMBER OR STUDENTS INVOLVED	895
HOW ARE STUDENTS GROUPED	896
BLANK	897
WERE STUDENTS 'AT RISK' INVOLVED	898
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	899
TYPE OF EVENT OBSERVED	900
BLANK	901
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	902
CONTENT AREA OR FOCAL TOPIC	903
NUMBER OR STUDENTS INVOLVED	904
HOW ARE STUDENTS GROUPED	905
BLANK	906
WERE STUDENTS 'AT RISK' INVOLVED	907
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	908
TYPE OF EVENT OBSERVED	909
BLANK	910

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # E	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	911
CONTENT AREA OR FOCAL TOPIC	912
NUMBER OF STUDENTS INVOLVED	913
HOW ARE STUDENTS GROUPED	914
TEACHING ACTIVITY INVOLVED AV	915
TEACHING ACTIVITY INVOLVED DISCUSSION	916
TEACHING ACTIVITY INVOLVED LECTURE	917
TEACHING ACTIVITY INVOLVED DEMONSTRATION	918
TEACHING ACTIVITY INVOLVED SIMULATION	919
TEACHING ACTIVITY INVOLVED WRITTEN WORK	920
TEACHING ACTIVITY INVOLVED READING	921
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	922
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	923
TEACHING ACTIVITY INVOLVED TAKING TEST	924
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	925
TEACHING ACTIVITY INVOLVED OTHER METHODS	926
NO MATERIALS ARE INVOLVED	927
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	928
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	929
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	930
TYPES OF MATERIALS USED INCLUDE TEST	931
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	932
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	933
OTHER TYPES OF MATERIALS ARE BEING USED	934
WERE "AT RISK" STUDENTS INVOLVED	935
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	936
TYPE OF EVENT OBSERVED	937
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	938
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	939
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	940
INTERACTIONS OBSERVED	941
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	942

ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	
ADEQUATE QUANTITIES/TYPES MATERIALS	943
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	944
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	945
STUDENTS REQUIRED TO WRITE	946
STUDENTS REQUIRED TO SPEAK	947
DID STUDENTS RECEIVE FEEDBACK	948
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	949
CONTENT AREA OR FOCAL TOPIC	950
NUMBER OR STUDENTS INVOLVED	951
HOW ARE STUDENTS GROUPED	952
TEACHING ACTIVITY INVOLVED AV	953
TEACHING ACTIVITY INVOLVED DISCUSSION	954
TEACHING ACTIVITY INVOLVED LECTURE	955
TEACHING ACTIVITY INVOLVED DEMONSTRATION	956
TEACHING ACTIVITY INVOLVED SIMULATION	957
TEACHING ACTIVITY INVOLVED WRITTEN WORK	958
TEACHING ACTIVITY INVOLVED READING	959
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	960
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	961
TEACHING ACTIVITY INVOLVED TAKING TEST	962
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	963
TEACHING ACTIVITY INVOLVED OTHER METHODS	964
NO MATERIALS ARE INVOLVED	965
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	966
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	967
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	968
TYPES OF MATERIALS USED INCLUDE TEST	969
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	970
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	971
OTHER TYPES OF MATERIALS ARE BEING USED	972
WERE STUDENTS 'AT RISK' INVOLVED	973
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	974
TYPE OF EVENT OBSERVED	975
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	976
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	977
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	978
INTERACTIONS OBSERVED	979
CLASSROOM OBSERVATION	980

DESCRIPTION

	VAR #
SNAPSHOT # E	

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	981
ADEQUATE QUANTITIES/TYPES MATERIALS	982
STUDENTS READ COMPLEX SIMPLE OR NO MATERIALS	983
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	984
STUDENTS REQUIRED TO WRITE	985
STUDENTS REQUIRED TO SPEAK	986
DID STUDENTS RECEIVE FEEDBACK	987
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	988
CONTENT AREA OR FOCAL TOPIC	989
NUMBER OR STUDENTS INVOLVED	990
HOW ARE STUDENTS GROUPED	991
TEACHING ACTIVITY INVOLVED AV	992
TEACHING ACTIVITY INVOLVED DISCUSSION	993
	994

TEACHING ACTIVITY INVOLVED LECTURE	995
TEACHING ACTIVITY INVOLVED DEMONSTRATION	996
TEACHING ACTIVITY INVOLVED SIMULATION	997
TEACHING ACTIVITY INVOLVED WRITTEN WORK	998
TEACHING ACTIVITY INVOLVED READING	999
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1000
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1001
TEACHING ACTIVITY INVOLVED TAKING TEST	1002
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1003
TEACHING ACTIVITY INVOLVED OTHER METHODS	1004
NO MATERIALS ARE INVOLVED	1005
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1006
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1007
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1008
TYPES OF MATERIALS USED INCLUDE TEST	1009
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1010
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1011
OTHER TYPES OF MATERIALS ARE BEING USED	1012
WERE STUDENTS 'AT RISK' INVOLVED	1013
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1014
TYPE OF EVENT OBSERVED	1015
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1016
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1017
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1018
INTERACTIONS OBSERVED	1019
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1020
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1021
ADEQUATE QUANTITIES/TYPES MATERIALS	1022
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1023
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1024
STUDENTS REQUIRED TO WRITE	1025
STUDENTS REQUIRED TO SPEAK	1026
DID STUDENTS RECEIVE FEEDBACK	1027
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1028
CONTENT AREA OR FOCAL TOPIC	1029
NUMBER OR STUDENTS INVOLVED	1030
HOW ARE STUDENTS GROUPED	1031
TEACHING ACTIVITY INVOLVED AV	1032
TEACHING ACTIVITY INVOLVED DISCUSSION	1033
TEACHING ACTIVITY INVOLVED LECTURE	1034
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1035
TEACHING ACTIVITY INVOLVED SIMULATION	1036
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1037
TEACHING ACTIVITY INVOLVED READING	1038
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1039
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1040
TEACHING ACTIVITY INVOLVED TAKING TEST	1041
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1042
TEACHING ACTIVITY INVOLVED OTHER METHODS	1043
NO MATERIALS ARE INVOLVED	1044
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1045
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1046
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1047
TYPES OF MATERIALS USED INCLUDE TEST	1048
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1049
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1050

CLASSROOM OBSERVATION

DESCRIPTION

VAR #

SNAPSHOT # E

OTHER TYPES OF MATERIALS ARE BEING USED	1051
WERE STUDENTS 'AT RISK' INVOLVED	1052
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1053
TYPE OF EVENT OBSERVED	1054
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1055
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1056
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1057
INTERACTIONS OBSERVED	1058
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1059
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1060
ADEQUATE QUANTITIES/TYPES MATERIALS	1061
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1062
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1063
STUDENTS REQUIRED TO WRITE	1064
STUDENTS REQUIRED TO SPEAK	1065
DID STUDENTS RECEIVE FEEDBACK	1066
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1067
CONTENT AREA OR FOCAL TOPIC	1068
NUMBER OR STUDENTS INVOLVED	1069
HOW ARE STUDENTS GROUPED	1070
BLANK	1071
WERE STUDENTS 'AT RISK' INVOLVED	1072
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1073
TYPE OF EVENT OBSERVED	1074
BLANK	1075
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1076
CONTENT AREA OR FOCAL TOPIC	1077
NUMBER OR STUDENTS INVOLVED	1078
HOW ARE STUDENTS GROUPED	1079
BLANK	1080
WERE STUDENTS 'AT RISK' INVOLVED	1081
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1082
TYPE OF EVENT OBSERVED	1083
BLANK	1084

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # F	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1085
CONTENT AREA OR FOCAL TOPIC	1086
NUMBER OF STUDENTS INVOLVED	1087
HOW ARE STUDENTS GROUPED	1088
TEACHING ACTIVITY INVOLVED AV	1089
TEACHING ACTIVITY INVOLVED DISCUSSION	1090
TEACHING ACTIVITY INVOLVED LECTURE	1091
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1092
TEACHING ACTIVITY INVOLVED SIMULATION	1093
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1094
TEACHING ACTIVITY INVOLVED READING	1095
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1096
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1097
TEACHING ACTIVITY INVOLVED TAKING TEST	1098

TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1099
TEACHING ACTIVITY INVOLVED OTHER METHODS	1100
NO MATERIALS ARE INVOLVED	1101
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1102
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1103
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1104
TYPES OF MATERIALS USED INCLUDE TEST	1105
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1106
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1107
OTHER TYPES OF MATERIALS ARE BEING USED	1108
WERE "AT RISK" STUDENTS INVOLVED	1109
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1110
TYPE OF EVENT OBSERVED	1111
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1112
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1113
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1114
INTERACTIONS OBSERVED	1115
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1116
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1117
ADEQUATE QUANTITIES/TYPES MATERIALS	1118
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1119
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1120
STUDENTS REQUIRED TO WRITE	1121
STUDENTS REQUIRED TO SPEAK	1122
DID STUDENTS RECEIVE FEEDBACK	1123
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1124
CONTENT AREA OR FOCAL TOPIC	1125
NUMBER OR STUDENTS INVOLVED	1126
HOW ARE STUDENTS GROUPED	1127
TEACHING ACTIVITY INVOLVED AV	1128
TEACHING ACTIVITY INVOLVED DISCUSSION	1129
TEACHING ACTIVITY INVOLVED LECTURE	1130
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1131
TEACHING ACTIVITY INVOLVED SIMULATION	1132
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1133
TEACHING ACTIVITY INVOLVED READING	1134
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1135
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1136
TEACHING ACTIVITY INVOLVED TAKING TEST	1137
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1138
TEACHING ACTIVITY INVOLVED OTHER METHODS	1139
NO MATERIALS ARE INVOLVED	1140
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1141
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1142
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1143
TYPES OF MATERIALS USED INCLUDE TEST	1144
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1145
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1146
OTHER TYPES OF MATERIALS ARE BEING USED	1147
WERE STUDENTS 'AT RISK' INVOLVED	1148
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1149
TYPE OF EVENT OBSERVED	1150
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1151
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1152
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1153
INTERACTIONS OBSERVED	1154

CLASSROOM OBSERVATION

DESCRIPTION

VAR #

SNAPSHOT # F

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1155
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1156
ADEQUATE QUANTITIES/TYPES MATERIALS	1157
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1158
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1159
STUDENTS REQUIRED TO WRITE	1160
STUDENTS REQUIRED TO SPEAK	1161
DID STUDENTS RECEIVE FEEDBACK	1162
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1163
CONTENT AREA OR FOCAL TOPIC	1164
NUMBER OR STUDENTS INVOLVED	1165
HOW ARE STUDENTS GROUPED	1166
TEACHING ACTIVITY INVOLVED AV	1167
TEACHING ACTIVITY INVOLVED DISCUSSION	1168
TEACHING ACTIVITY INVOLVED LECTURE	1169
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1170
TEACHING ACTIVITY INVOLVED SIMULATION	1171
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1172
TEACHING ACTIVITY INVOLVED READING	1173
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1174
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1175
TEACHING ACTIVITY INVOLVED TAKING TEST	1176
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1177
TEACHING ACTIVITY INVOLVED OTHER METHODS	1178
NO MATERIALS ARE INVOLVED	1179
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1180
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1181
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1182
TYPES OF MATERIALS USED INCLUDE TEST	1183
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1184
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1185
OTHER TYPES OF MATERIALS ARE BEING USED	1186
WERE STUDENTS 'AT RISK' INVOLVED	1187
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1188
TYPE OF EVENT OBSERVED	1189
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1190
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1191
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1192
INTERACTIONS OBSERVED	1193
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1194
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1195
ADEQUATE QUANTITIES/TYPES MATERIALS	1196
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1197
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1198
STUDENTS REQUIRED TO WRITE	1199
STUDENTS REQUIRED TO SPEAK	1200
DID STUDENTS RECEIVE FEEDBACK	1201
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1202
CONTENT AREA OR FOCAL TOPIC	1203
NUMBER OR STUDENTS INVOLVED	1204
HOW ARE STUDENTS GROUPED	1205
TEACHING ACTIVITY INVOLVED AV	1206
TEACHING ACTIVITY INVOLVED DISCUSSION	1207
TEACHING ACTIVITY INVOLVED LECTURE	1208
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1209
TEACHING ACTIVITY INVOLVED SIMULATION	1210

TEACHING ACTIVITY INVOLVED WRITTEN WORK	
TEACHING ACTIVITY INVOLVED READING	1211
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1212
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1213
TEACHING ACTIVITY INVOLVED TAKING TEST	1214
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1215
TEACHING ACTIVITY INVOLVED OTHER METHODS	1216
NO MATERIALS ARE INVOLVED	1217
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1218
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1219
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1220
TYPES OF MATERIALS USED INCLUDE TEST	1221
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1222
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1223
CLASSROOM OBSERVATION	1224

DESCRIPTION

VAR #

SNAPSHOT # F

OTHER TYPES OF MATERIALS ARE BEING USED	
WERE STUDENTS 'AT RISK' INVOLVED	1225
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1226
TYPE OF EVENT OBSERVED	1227
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1228
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1229
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1230
INTERACTIONS OBSERVED	1231
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1232
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1233
ADEQUATE QUANTITIES/TYPES MATERIALS	1234
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1235
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1236
STUDENTS REQUIRED TO WRITE	1237
STUDENTS REQUIRED TO SPEAK	1238
DID STUDENTS RECEIVE FEEDBACK	1239
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1240
CONTENT AREA OR FOCAL TOPIC	1241
NUMBER OR STUDENTS INVOLVED	1242
HOW ARE STUDENTS GROUPED	1243
BLANK	1244
WERE STUDENTS 'AT RISK' INVOLVED	1245
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1246
TYPE OF EVENT OBSERVED	1247
BLANK	1248
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1249
CONTENT AREA OR FOCAL TOPIC	1250
NUMBER OR STUDENTS INVOLVED	1251
HOW ARE STUDENTS GROUPED	1252
BLANK	1253
WERE STUDENTS 'AT RISK' INVOLVED	1254
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1255
TYPE OF EVENT OBSERVED	1256
BLANK	1257
CLASSROOM OBSERVATION	1258

DESCRIPTION

VAR #

SNAPSHOT # G

TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1259
CONTENT AREA OR FOCAL TOPIC	1260
NUMBER OF STUDENTS INVOLVED	1261
HOW ARE STUDENTS GROUPED	1262
TEACHING ACTIVITY INVOLVED AV	1263
TEACHING ACTIVITY INVOLVED DISCUSSION	1264
TEACHING ACTIVITY INVOLVED LECTURE	1265
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1266
TEACHING ACTIVITY INVOLVED SIMULATION	1267
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1268
TEACHING ACTIVITY INVOLVED READING	1269
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1270
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1271
TEACHING ACTIVITY INVOLVED TAKING TEST	1272
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1273
TEACHING ACTIVITY INVOLVED OTHER METHODS	1274
NO MATERIALS ARE INVOLVED	1275
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1276
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1277
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1278
TYPES OF MATERIALS USED INCLUDE TEST	1279
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1280
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1281
OTHER TYPES OF MATERIALS ARE BEING USED	1282
WERE "AT RISK" STUDENTS INVOLVED	1283
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1284
TYPE OF EVENT OBSERVED	1285
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1286
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1287
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1288
INTERACTIONS OBSERVED	1289
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1290
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1291
ADEQUATE QUANTITIES/TYPES MATERIALS	1292
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1293
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1294
STUDENTS REQUIRED TO WRITE	1295
STUDENTS REQUIRED TO SPEAK	1296
DID STUDENTS RECEIVE FEEDBACK	1297
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1298
CONTENT AREA OR FOCAL TOPIC	1299
NUMBER OR STUDENTS INVOLVED	1300
HOW ARE STUDENTS GROUPED	1301
TEACHING ACTIVITY INVOLVED AV	1302
TEACHING ACTIVITY INVOLVED DISCUSSION	1303
TEACHING ACTIVITY INVOLVED LECTURE	1304
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1305
TEACHING ACTIVITY INVOLVED SIMULATION	1306
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1307
TEACHING ACTIVITY INVOLVED READING	1308
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1309
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1310
TEACHING ACTIVITY INVOLVED TAKING TEST	1311
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1312
TEACHING ACTIVITY INVOLVED OTHER METHODS	1313
NO MATERIALS ARE INVOLVED	1314

TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1315
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1316
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1317
TYPES OF MATERIALS USED INCLUDE TEST	1318
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1319
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1320
OTHER TYPES OF MATERIALS ARE BEING USED	1321
WERE STUDENTS 'AT RISK' INVOLVED	1322
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1323
TYPE OF EVENT OBSERVED	1324
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1325
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1326
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1327
INTERACTIONS OBSERVED	1328

CLASSROOM OBSERVATION

DESCRIPTION

SNAPSHOT # G

	VAR #
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1329
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1330
ADEQUATE QUANTITIES/TYPES MATERIALS	1331
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1332
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1333
STUDENTS REQUIRED TO WRITE	1334
STUDENTS REQUIRED TO SPEAK	1335
DID STUDENTS RECEIVE FEEDBACK	1336
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1337
CONTENT AREA OR FOCAL TOPIC	1338
NUMBER OR STUDENTS INVOLVED	1339
HOW ARE STUDENTS GROUPED	1340
TEACHING ACTIVITY INVOLVED AV	1341
TEACHING ACTIVITY INVOLVED DISCUSSION	1342
TEACHING ACTIVITY INVOLVED LECTURE	1343
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1344
TEACHING ACTIVITY INVOLVED SIMULATION	1345
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1346
TEACHING ACTIVITY INVOLVED READING	1347
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1348
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1349
TEACHING ACTIVITY INVOLVED TAKING TEST	1350
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1351
TEACHING ACTIVITY INVOLVED OTHER METHODS	1352
NO MATERIALS ARE INVOLVED	1353
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1354
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1355
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1356
TYPES OF MATERIALS USED INCLUDE TEST	1357
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1358
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1359
OTHER TYPES OF MATERIALS ARE BEING USED	1360
WERE STUDENTS 'AT RISK' INVOLVED	1361
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1362
TYPE OF EVENT OBSERVED	1363
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1364
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1365
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1366

INTERACTIONS OBSERVED	1367
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1368
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1369
ADEQUATE QUANTITIES/TYPES MATERIALS	1370
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1371
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1372
STUDENTS REQUIRED TO WRITE	1373
STUDENTS REQUIRED TO SPEAK	1374
DID STUDENTS RECEIVE FEEDBACK	1375
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1376
CONTENT AREA OR FOCAL TOPIC	1377
NUMBER OR STUDENTS INVOLVED	1378
HOW ARE STUDENTS GROUPED	1379
TEACHING ACTIVITY INVOLVED AV	1380
TEACHING ACTIVITY INVOLVED DISCUSSION	1381
TEACHING ACTIVITY INVOLVED LECTURE	1382
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1383
TEACHING ACTIVITY INVOLVED SIMULATION	1384
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1385
TEACHING ACTIVITY INVOLVED READING	1386
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1387
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1388
TEACHING ACTIVITY INVOLVED TAKING TEST	1389
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1390
TEACHING ACTIVITY INVOLVED OTHER METHODS	1391
NO MATERIALS ARE INVOLVED	1392
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1393
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1394
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1395
TYPES OF MATERIALS USED INCLUDE TEST	1396
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1397
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1398

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # G	
OTHER TYPES OF MATERIALS ARE BEING USED	1399
WERE STUDENTS 'AT RISK' INVOLVED	1400
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1401
TYPE OF EVENT OBSERVED	1402
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1403
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1404
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1405
INTERACTIONS OBSERVED	1406
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1407
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1408
ADEQUATE QUANTITIES/TYPES MATERIALS	1409
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1410
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1411
STUDENTS REQUIRED TO WRITE	1412
STUDENTS REQUIRED TO SPEAK	1413
DID STUDENTS RECEIVE FEEDBACK	1414
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1415
CONTENT AREA OR FOCAL TOPIC	1416
NUMBER OR STUDENTS INVOLVED	1417
HOW ARE STUDENTS GROUPED	1418

BLANK	
WERE STUDENTS 'AT RISK' INVOLVED	1419
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1420
TYPE OF EVENT OBSERVED	1421
BLANK	1422
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1423
CONTENT AREA OR FOCAL TOPIC	1424
NUMBER OR STUDENTS INVOLVED	1425
HOW ARE STUDENTS GROUPED	1426
BLANK	1427
WERE STUDENTS 'AT RISK' INVOLVED	1428
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1429
TYPE OF EVENT OBSERVED	1430
BLANK	1431
CLASSROOM OBSERVATION	1432

DESCRIPTION

SNAPSHOT # H	VAR #
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1433
CONTENT AREA OR FOCAL TOPIC	1434
NUMBER OF STUDENTS INVOLVED	1435
HOW ARE STUDENTS GROUPED	1436
TEACHING ACTIVITY INVOLVED AV	1437
TEACHING ACTIVITY INVOLVED DISCUSSION	1438
TEACHING ACTIVITY INVOLVED LECTURE	1439
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1440
TEACHING ACTIVITY INVOLVED SIMULATION	1441
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1442
TEACHING ACTIVITY INVOLVED READING	1443
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1444
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1445
TEACHING ACTIVITY INVOLVED TAKING TEST	1446
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1447
TEACHING ACTIVITY INVOLVED OTHER METHODS	1448
NO MATERIALS ARE INVOLVED	1449
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1450
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1451
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1452
TYPES OF MATERIALS USED INCLUDE TEST	1453
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1454
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1455
OTHER TYPES OF MATERIALS ARE BEING USED	1456
WERE "AT RISK" STUDENTS INVOLVED	1457
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1458
TYPE OF EVENT OBSERVED	1459
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1460
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1461
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1462
INTERACTIONS OBSERVED	1463
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1464
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1465
ADEQUATE QUANTITIES/TYPES MATERIALS	1466
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1467
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1468
STUDENTS REQUIRED TO WRITE	1469
STUDENTS REQUIRED TO SPEAK	1470

DID STUDENTS RECEIVE FEEDBACK	1471
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1472
CONTENT AREA OR FOCAL TOPIC	1473
NUMBER OR STUDENTS INVOLVED	1474
HOW ARE STUDENTS GROUPED	1475
TEACHING ACTIVITY INVOLVED AV	1476
TEACHING ACTIVITY INVOLVED DISCUSSION	1477
TEACHING ACTIVITY INVOLVED LECTURE	1478
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1479
TEACHING ACTIVITY INVOLVED SIMULATION	1480
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1481
TEACHING ACTIVITY INVOLVED READING	1482
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1483
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1484
TEACHING ACTIVITY INVOLVED TAKING TEST	1485
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1486
TEACHING ACTIVITY INVOLVED OTHER METHODS	1487
NO MATERIALS ARE INVOLVED	1488
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1489
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1490
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1491
TYPES OF MATERIALS USED INCLUDE TEST	1492
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1493
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1494
OTHER TYPES OF MATERIALS ARE BEING USED	1495
WERE STUDENTS 'AT RISK' INVOLVED	1496
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1497
TYPE OF EVENT OBSERVED	1498
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1499
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1500
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1501
INTERACTIONS OBSERVED	1502

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # H	

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1503
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1504
ADEQUATE QUANTITIES/TYPES MATERIALS	1505
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1506
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1507
STUDENTS REQUIRED TO WRITE	1508
STUDENTS REQUIRED TO SPEAK	1509
DID STUDENTS RECEIVE FEEDBACK	1510
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1511
CONTENT AREA OR FOCAL TOPIC	1512
NUMBER OR STUDENTS INVOLVED	1513
HOW ARE STUDENTS GROUPED	1514
TEACHING ACTIVITY INVOLVED AV	1515
TEACHING ACTIVITY INVOLVED DISCUSSION	1516
TEACHING ACTIVITY INVOLVED LECTURE	1517
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1518
TEACHING ACTIVITY INVOLVED SIMULATION	1519
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1520
TEACHING ACTIVITY INVOLVED READING	1521
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1522

TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1523
TEACHING ACTIVITY INVOLVED TAKING TEST	1524
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1525
TEACHING ACTIVITY INVOLVED OTHER METHODS	1526
NO MATERIALS ARE INVOLVED	1527
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1528
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1529
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1530
TYPES OF MATERIALS USED INCLUDE TEST	1531
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1532
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1533
OTHER TYPES OF MATERIALS ARE BEING USED	1534
WERE STUDENTS 'AT RISK' INVOLVED	1535
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1536
TYPE OF EVENT OBSERVED	1537
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1538
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1539
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1540
INTERACTIONS OBSERVED	1541
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1542
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1543
ADEQUATE QUANTITIES/TYPES MATERIALS	1544
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1545
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1546
STUDENTS REQUIRED TO WRITE	1547
STUDENTS REQUIRED TO SPEAK	1548
DID STUDENTS RECEIVE FEEDBACK	1549
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1550
CONTENT AREA OR FOCAL TOPIC	1551
NUMBER OR STUDENTS INVOLVED	1552
HOW ARE STUDENTS GROUPED	1553
TEACHING ACTIVITY INVOLVED AV	1554
TEACHING ACTIVITY INVOLVED DISCUSSION	1555
TEACHING ACTIVITY INVOLVED LECTURE	1556
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1557
TEACHING ACTIVITY INVOLVED SIMULATION	1558
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1559
TEACHING ACTIVITY INVOLVED READING	1560
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1561
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1562
TEACHING ACTIVITY INVOLVED TAKING TEST	1563
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1564
TEACHING ACTIVITY INVOLVED OTHER METHODS	1565
NO MATERIALS ARE INVOLVED	1566
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1567
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1568
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1569
TYPES OF MATERIALS USED INCLUDE TEST	1570
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1571
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1572

CLASSROOM OBSERVATION

DESCRIPTION

	VAR #
SNAPSHOT # H	
OTHER TYPES OF MATERIALS ARE BEING USED	1573
WERE STUDENTS 'AT RISK' INVOLVED	1574

DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1575
TYPE OF EVENT OBSERVED	1576
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1577
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1578
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1579
INTERACTIONS OBSERVED	1580
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1581
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1582
ADEQUATE QUANTITIES/TYPES MATERIALS	1583
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1584
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1585
STUDENTS REQUIRED TO WRITE	1586
STUDENTS REQUIRED TO SPEAK	1587
DID STUDENTS RECEIVE FEEDBACK	1588
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1589
CONTENT AREA OR FOCAL TOPIC	1590
NUMBER OR STUDENTS INVOLVED	1591
HOW ARE STUDENTS GROUPED	1592
BLANK	1593
WERE STUDENTS 'AT RISK' INVOLVED	1594
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1595
TYPE OF EVENT OBSERVED	1596
BLANK	1597
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1598
CONTENT AREA OR FOCAL TOPIC	1599
NUMBER OR STUDENTS INVOLVED	1600
HOW ARE STUDENTS GROUPED	1601
BLANK	1602
WERE STUDENTS 'AT RISK' INVOLVED	1603
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1604
TYPE OF EVENT OBSERVED	1605
BLANK	1606

CLASSROOM OBSERVATION

DESCRIPTION

	VAR #
SNAPSHOT # I	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1607
CONTENT AREA OR FOCAL TOPIC	1608
NUMBER OF STUDENTS INVOLVED	1609
HOW ARE STUDENTS GROUPED	1610
TEACHING ACTIVITY INVOLVED AV	1611
TEACHING ACTIVITY INVOLVED DISCUSSION	1612
TEACHING ACTIVITY INVOLVED LECTURE	1613
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1614
TEACHING ACTIVITY INVOLVED SIMULATION	1615
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1616
TEACHING ACTIVITY INVOLVED READING	1617
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1618
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1619
TEACHING ACTIVITY INVOLVED TAKING TEST	1620
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1621
TEACHING ACTIVITY INVOLVED OTHER METHODS	1622
NO MATERIALS ARE INVOLVED	1623
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1624
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1625
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1626

TYPES OF MATERIALS USED INCLUDE TEST	
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1627
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1628
OTHER TYPES OF MATERIALS ARE BEING USED	1629
WERE "AT RISK" STUDENTS INVOLVED	1630
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1631
TYPE OF EVENT OBSERVED	1632
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1633
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1634
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1635
INTERACTIONS OBSERVED	1636
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1637
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1638
ADEQUATE QUANTITIES/TYPES MATERIALS	1639
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1640
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1641
STUDENTS REQUIRED TO WRITE	1642
STUDENTS REQUIRED TO SPEAK	1643
DID STUDENTS RECEIVE FEEDBACK	1644
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1645
CONTENT AREA OR FOCAL TOPIC	1646
NUMBER OR STUDENTS INVOLVED	1647
HOW ARE STUDENTS GROUPED	1648
TEACHING ACTIVITY INVOLVED AV	1649
TEACHING ACTIVITY INVOLVED DISCUSSION	1650
TEACHING ACTIVITY INVOLVED LECTURE	1651
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1652
TEACHING ACTIVITY INVOLVED SIMULATION	1653
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1654
TEACHING ACTIVITY INVOLVED READING	1655
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1656
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1657
TEACHING ACTIVITY INVOLVED TAKING TEST	1658
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1659
TEACHING ACTIVITY INVOLVED OTHER METHODS	1660
NO MATERIALS ARE INVOLVED	1661
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1662
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1663
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1664
TYPES OF MATERIALS USED INCLUDE TEST	1665
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1666
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1667
OTHER TYPES OF MATERIALS ARE BEING USED	1668
WERE STUDENTS 'AT RISK' INVOLVED	1669
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1670
TYPE OF EVENT OBSERVED	1671
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1672
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1673
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1674
INTERACTIONS OBSERVED	1675
CLASSROOM OBSERVATION	1676

DESCRIPTION

	VAR #
SNAPSHOT # I	

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1677
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1678

ADEQUATE QUANTITIES/TYPES MATERIALS
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS 1679
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS 1680
STUDENTS REQUIRED TO WRITE 1681
STUDENTS REQUIRED TO SPEAK 1682
DID STUDENTS RECEIVE FEEDBACK 1683
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION 1684
CONTENT AREA OR FOCAL TOPIC 1685
NUMBER OR STUDENTS INVOLVED 1686
HOW ARE STUDENTS GROUPED 1687
TEACHING ACTIVITY INVOLVED AV 1688
TEACHING ACTIVITY INVOLVED DISCUSSION 1689
TEACHING ACTIVITY INVOLVED LECTURE 1690
TEACHING ACTIVITY INVOLVED DEMONSTRATION 1691
TEACHING ACTIVITY INVOLVED SIMULATION 1692
TEACHING ACTIVITY INVOLVED WRITTEN WORK 1693
TEACHING ACTIVITY INVOLVED READING 1694
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL) 1695
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL) 1696
TEACHING ACTIVITY INVOLVED TAKING TEST 1697
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS 1698
TEACHING ACTIVITY INVOLVED OTHER METHODS 1699
NO MATERIALS ARE INVOLVED 1700
TYPES OF MATERIALS USED INCLUDE TEXTBOOK 1701
TYPES OF MATERIALS USED INCLUDE WORKSHEETS 1702
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT 1703
TYPES OF MATERIALS USED INCLUDE TEST 1704
TYPES OF MATERIALS USED INCLUDE CHALKBOARD 1705
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS 1706
OTHER TYPES OF MATERIALS ARE BEING USED 1707
WERE STUDENTS 'AT RISK' INVOLVED 1708
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION 1709
TYPE OF EVENT OBSERVED 1710
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO 1711
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE 1712
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK 1713
INTERACTIONS OBSERVED 1714
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS 1715
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION 1716
ADEQUATE QUANTITIES/TYPES MATERIALS 1717
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS 1718
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS 1719
STUDENTS REQUIRED TO WRITE 1720
STUDENTS REQUIRED TO SPEAK 1721
DID STUDENTS RECEIVE FEEDBACK 1722
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION 1723
CONTENT AREA OR FOCAL TOPIC 1724
NUMBER OR STUDENTS INVOLVED 1725
HOW ARE STUDENTS GROUPED 1726
TEACHING ACTIVITY INVOLVED AV 1727
TEACHING ACTIVITY INVOLVED DISCUSSION 1728
TEACHING ACTIVITY INVOLVED LECTURE 1729
TEACHING ACTIVITY INVOLVED DEMONSTRATION 1730
TEACHING ACTIVITY INVOLVED SIMULATION 1731
TEACHING ACTIVITY INVOLVED WRITTEN WORK 1732
TEACHING ACTIVITY INVOLVED READING 1733
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL) 1734
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL) 1735
TEACHING ACTIVITY INVOLVED TAKING TEST 1736
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS 1737
1738

TEACHING ACTIVITY INVOLVED OTHER METHODS	
NO MATERIALS ARE INVOLVED	1739
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1740
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1741
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1742
TYPES OF MATERIALS USED INCLUDE TEST	1743
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1744
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1745
CLASSROOM OBSERVATION	1746

DESCRIPTION

	VAR #
SNAPSHOT # I	
OTHER TYPES OF MATERIALS ARE BEING USED	
WERE STUDENTS 'AT RISK' INVOLVED	1747
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1748
TYPE OF EVENT OBSERVED	1749
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1750
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1751
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1752
INTERACTIONS OBSERVED	1753
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1754
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1755
ADEQUATE QUANTITIES/TYPES MATERIALS	1756
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1757
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1758
STUDENTS REQUIRED TO WRITE	1759
STUDENTS REQUIRED TO SPEAK	1760
DID STUDENTS RECEIVE FEEDBACK	1761
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1762
CONTENT AREA OR FOCAL TOPIC	1763
NUMBER OR STUDENTS INVOLVED	1764
HOW ARE STUDENTS GROUPED	1765
BLANK	1766
WERE STUDENTS 'AT RISK' INVOLVED	1767
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1768
TYPE OF EVENT OBSERVED	1769
BLANK	1770
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1771
CONTENT AREA OR FOCAL TOPIC	1772
NUMBER OR STUDENTS INVOLVED	1773
HOW ARE STUDENTS GROUPED	1774
BLANK	1775
WERE STUDENTS 'AT RISK' INVOLVED	1776
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1777
TYPE OF EVENT OBSERVED	1778
BLANK	1779
CLASSROOM OBSERVATION	1780

DESCRIPTION

	VAR #
SNAPSHOT # J	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1781
CONTENT AREA OR FOCAL TOPIC	1782

NUMBER OF STUDENTS INVOLVED	1783
HOW ARE STUDENTS GROUPED	1784
TEACHING ACTIVITY INVOLVED AV	1785
TEACHING ACTIVITY INVOLVED DISCUSSION	1786
TEACHING ACTIVITY INVOLVED LECTURE	1787
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1788
TEACHING ACTIVITY INVOLVED SIMULATION	1789
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1790
TEACHING ACTIVITY INVOLVED READING	1791
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1792
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1793
TEACHING ACTIVITY INVOLVED TAKING TEST	1794
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1795
TEACHING ACTIVITY INVOLVED OTHER METHODS	1796
NO MATERIALS ARE INVOLVED	1797
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1798
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1799
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1800
TYPES OF MATERIALS USED INCLUDE TEST	1801
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1802
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1803
OTHER TYPES OF MATERIALS ARE BEING USED	1804
WERE "AT RISK" STUDENTS INVOLVED	1805
DID EPISODE START, ENT, OR CONTINUE DURING THIS PART OF OBSERVATION	1806
TYPE OF EVENT OBSERVED	1807
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1808
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1809
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1810
INTERACTIONS OBSERVED	1811
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1812
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1813
ADEQUATE QUANTITIES/TYPES MATERIALS	1814
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1815
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1816
STUDENTS REQUIRED TO WRITE	1817
STUDENTS REQUIRED TO SPEAK	1818
DID STUDENTS RECEIVE FEEDBACK	1819
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1820
CONTENT AREA OR FOCAL TOPIC	1821
NUMBER OR STUDENTS INVOLVED	1822
HOW ARE STUDENTS GROUPED	1823
TEACHING ACTIVITY INVOLVED AV	1824
TEACHING ACTIVITY INVOLVED DISCUSSION	1825
TEACHING ACTIVITY INVOLVED LECTURE	1826
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1827
TEACHING ACTIVITY INVOLVED SIMULATION	1828
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1829
TEACHING ACTIVITY INVOLVED READING	1830
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1831
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1832
TEACHING ACTIVITY INVOLVED TAKING TEST	1833
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1834
TEACHING ACTIVITY INVOLVED OTHER METHODS	1835
NO MATERIALS ARE INVOLVED	1836
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1837
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1838
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1839
TYPES OF MATERIALS USED INCLUDE TEST	1840
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1841
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1842

OTHER TYPES OF MATERIALS ARE BEING USED	1843
WERE STUDENTS 'AT RISK' INVOLVED	1844
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1845
TYPE OF EVENT OBSERVED	1846
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1847
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1848
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1849
INTERACTIONS OBSERVED	1850

CLASSROOM OBSERVATION

DESCRIPTION

	VAR #
SNAPSHOT # J	

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1851
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1852
ADEQUATE QUANTITIES/TYPES MATERIALS	1853
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1854
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1855
STUDENTS REQUIRED TO WRITE	1856
STUDENTS REQUIRED TO SPEAK	1857
DID STUDENTS RECEIVE FEEDBACK	1858
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1859
CONTENT AREA OR FOCAL TOPIC	1860
NUMBER OR STUDENTS INVOLVED	1861
HOW ARE STUDENTS GROUPED	1862
TEACHING ACTIVITY INVOLVED AV	1863
TEACHING ACTIVITY INVOLVED DISCUSSION	1864
TEACHING ACTIVITY INVOLVED LECTURE	1865
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1866
TEACHING ACTIVITY INVOLVED SIMULATION	1867
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1868
TEACHING ACTIVITY INVOLVED READING	1869
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1870
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1871
TEACHING ACTIVITY INVOLVED TAKING TEST	1872
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1873
TEACHING ACTIVITY INVOLVED OTHER METHODS	1874
NO MATERIALS ARE INVOLVED	1875
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1876
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1877
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1878
TYPES OF MATERIALS USED INCLUDE TEST	1879
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1880
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1881
OTHER TYPES OF MATERIALS ARE BEING USED	1882
WERE STUDENTS 'AT RISK' INVOLVED	1883
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1884
TYPE OF EVENT OBSERVED	1885
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1886
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1887
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1888
INTERACTIONS OBSERVED	1889
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1890
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1891
ADEQUATE QUANTITIES/TYPES MATERIALS	1892
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1893
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1894

STUDENTS REQUIRED TO WRITE	1895
STUDENTS REQUIRED TO SPEAK	1896
DID STUDENTS RECEIVE FEEDBACK	1897
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1898
CONTENT AREA OR FOCAL TOPIC	1899
NUMBER OR STUDENTS INVOLVED	1900
HOW ARE STUDENTS GROUPED	1901
TEACHING ACTIVITY INVOLVED AV	1902
TEACHING ACTIVITY INVOLVED DISCUSSION	1903
TEACHING ACTIVITY INVOLVED LECTURE	1904
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1905
TEACHING ACTIVITY INVOLVED SIMULATION	1906
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1907
TEACHING ACTIVITY INVOLVED READING	1908
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1909
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1910
TEACHING ACTIVITY INVOLVED TAKING TEST	1911
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1912
TEACHING ACTIVITY INVOLVED OTHER METHODS	1913
NO MATERIALS ARE INVOLVED	1914
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1915
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1916
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1917
TYPES OF MATERIALS USED INCLUDE TEST	1918
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1919
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1920

CLASSROOM OBSERVATION

DESCRIPTION

	VAR #
SNAPSHOT # J	
OTHER TYPES OF MATERIALS ARE BEING USED	1921
WERE STUDENTS 'AT RISK' INVOLVED	1922
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1923
TYPE OF EVENT OBSERVED	1924
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1925
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1926
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1927
INTERACTIONS OBSERVED	1928
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1929
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1930
ADEQUATE QUANTITIES/TYPES MATERIALS	1931
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1932
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1933
STUDENTS REQUIRED TO WRITE	1934
STUDENTS REQUIRED TO SPEAK	1935
DID STUDENTS RECEIVE FEEDBACK	1936
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1937
CONTENT AREA OR FOCAL TOPIC	1938
NUMBER OR STUDENTS INVOLVED	1939
HOW ARE STUDENTS GROUPED	1940
BLANK	1941
WERE STUDENTS 'AT RISK' INVOLVED	1942
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1943
TYPE OF EVENT OBSERVED	1944
BLANK	1945
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1946

CONTENT AREA OR FOCAL TOPIC	1947
NUMBER OR STUDENTS INVOLVED	1948
HOW ARE STUDENTS GROUPED	1949
BLANK	1950
WERE STUDENTS 'AT RISK' INVOLVED	1951
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1952
TYPE OF EVENT OBSERVED	1953
BLANK	1954

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # K	
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1955
CONTENT AREA OR FOCAL TOPIC	1956
NUMBER OF STUDENTS INVOLVED	1957
HOW ARE STUDENTS GROUPED	1958
TEACHING ACTIVITY INVOLVED AV	1959
TEACHING ACTIVITY INVOLVED DISCUSSION	1960
TEACHING ACTIVITY INVOLVED LECTURE	1961
TEACHING ACTIVITY INVOLVED DEMONSTRATION	1962
TEACHING ACTIVITY INVOLVED SIMULATION	1963
TEACHING ACTIVITY INVOLVED WRITTEN WORK	1964
TEACHING ACTIVITY INVOLVED READING	1965
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	1966
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	1967
TEACHING ACTIVITY INVOLVED TAKING TEST	1968
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	1969
TEACHING ACTIVITY INVOLVED OTHER METHODS	1970
NO MATERIALS ARE INVOLVED	1971
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	1972
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	1973
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	1974
TYPES OF MATERIALS USED INCLUDE TEST	1975
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	1976
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	1977
OTHER TYPES OF MATERIALS ARE BEING USED	1978
WERE "AT RISK" STUDENTS INVOLVED	1979
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	1980
TYPE OF EVENT OBSERVED	1981
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	1982
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	1983
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	1984
INTERACTIONS OBSERVED	1985
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	1986
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	1987
ADEQUATE QUANTITIES/TYPES MATERIALS	1988
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	1989
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	1990
STUDENTS REQUIRED TO WRITE	1991
STUDENTS REQUIRED TO SPEAK	1992
DID STUDENTS RECEIVE FEEDBACK	1993
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	1994
CONTENT AREA OR FOCAL TOPIC	1995
NUMBER OR STUDENTS INVOLVED	1996
HOW ARE STUDENTS GROUPED	1997
TEACHING ACTIVITY INVOLVED AV	1998

TEACHING ACTIVITY INVOLVED DISCUSSION	1999
TEACHING ACTIVITY INVOLVED LECTURE	2000
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2001
TEACHING ACTIVITY INVOLVED SIMULATION	2002
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2003
TEACHING ACTIVITY INVOLVED READING	2004
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2005
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2006
TEACHING ACTIVITY INVOLVED TAKING TEST	2007
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2008
TEACHING ACTIVITY INVOLVED OTHER METHODS	2009
NO MATERIALS ARE INVOLVED	2010
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2011
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2012
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2013
TYPES OF MATERIALS USED INCLUDE TEST	2014
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2015
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2016
OTHER TYPES OF MATERIALS ARE BEING USED	2017
WERE STUDENTS 'AT RISK' INVOLVED	2018
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2019
TYPE OF EVENT OBSERVED	2020
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2021
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2022
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2023
INTERACTIONS OBSERVED	2024

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # K	

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2025
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2026
ADEQUATE QUANTITIES/TYPES MATERIALS	2027
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2028
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2029
STUDENTS REQUIRED TO WRITE	2030
STUDENTS REQUIRED TO SPEAK	2031
DID STUDENTS RECEIVE FEEDBACK	2032
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2033
CONTENT AREA OR FOCAL TOPIC	2034
NUMBER OR STUDENTS INVOLVED	2035
HOW ARE STUDENTS GROUPED	2036
TEACHING ACTIVITY INVOLVED AV	2037
TEACHING ACTIVITY INVOLVED DISCUSSION	2038
TEACHING ACTIVITY INVOLVED LECTURE	2039
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2040
TEACHING ACTIVITY INVOLVED SIMULATION	2041
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2042
TEACHING ACTIVITY INVOLVED READING	2043
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2044
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2045
TEACHING ACTIVITY INVOLVED TAKING TEST	2046
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2047
TEACHING ACTIVITY INVOLVED OTHER METHODS	2048
NO MATERIALS ARE INVOLVED	2049
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2050

TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2051
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2052
TYPES OF MATERIALS USED INCLUDE TEST	2053
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2054
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2055
OTHER TYPES OF MATERIALS ARE BEING USED	2056
WERE STUDENTS 'AT RISK' INVOLVED	2057
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2058
TYPE OF EVENT OBSERVED	2059
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2060
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2061
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2062
INTERACTIONS OBSERVED	2063
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2064
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2065
ADEQUATE QUANTITIES/TYPES MATERIALS	2066
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2067
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2068
STUDENTS REQUIRED TO WRITE	2069
STUDENTS REQUIRED TO SPEAK	2070
DID STUDENTS RECEIVE FEEDBACK	2071
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2072
CONTENT AREA OR FOCAL TOPIC	2073
NUMBER OR STUDENTS INVOLVED	2074
HOW ARE STUDENTS GROUPED	2075
TEACHING ACTIVITY INVOLVED AV	2076
TEACHING ACTIVITY INVOLVED DISCUSSION	2077
TEACHING ACTIVITY INVOLVED LECTURE	2078
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2079
TEACHING ACTIVITY INVOLVED SIMULATION	2080
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2081
TEACHING ACTIVITY INVOLVED READING	2082
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2083
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2084
TEACHING ACTIVITY INVOLVED TAKING TEST	2085
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2086
TEACHING ACTIVITY INVOLVED OTHER METHODS	2087
NO MATERIALS ARE INVOLVED	2088
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2089
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2090
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2091
TYPES OF MATERIALS USED INCLUDE TEST	2092
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2093
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2094

CLASSROOM OBSERVATION

DESCRIPTION

	VAR #
SNAPSHOT # K	

OTHER TYPES OF MATERIALS ARE BEING USED	2095
WERE STUDENTS 'AT RISK' INVOLVED	2096
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2097
TYPE OF EVENT OBSERVED	2098
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2099
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2100
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2101
INTERACTIONS OBSERVED	2102

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2103
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2104
ADEQUATE QUANTITIES/TYPES MATERIALS	2105
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2106
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2107
STUDENTS REQUIRED TO WRITE	2108
STUDENTS REQUIRED TO SPEAK	2109
DID STUDENTS RECEIVE FEEDBACK	2110
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2111
CONTENT AREA OR FOCAL TOPIC	2112
NUMBER OR STUDENTS INVOLVED	2113
HOW ARE STUDENTS GROUPED	2114
BLANK	2115
WERE STUDENTS 'AT RISK' INVOLVED	2116
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2117
TYPE OF EVENT OBSERVED	2118
BLANK	2119
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2120
CONTENT AREA OR FOCAL TOPIC	2121
NUMBER OR STUDENTS INVOLVED	2122
HOW ARE STUDENTS GROUPED	2123
BLANK	2124
WERE STUDENTS 'AT RISK' INVOLVED	2125
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2126
TYPE OF EVENT OBSERVED	2127
BLANK	2128

CLASSROOM OBSERVATION

DESCRIPTION	VAR #
SNAPSHOT # L	

TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2129
CONTENT AREA OR FOCAL TOPIC	2130
NUMBER OF STUDENTS INVOLVED	2131
HOW ARE STUDENTS GROUPED	2132
TEACHING ACTIVITY INVOLVED AV	2133
TEACHING ACTIVITY INVOLVED DISCUSSION	2134
TEACHING ACTIVITY INVOLVED LECTURE	2135
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2136
TEACHING ACTIVITY INVOLVED SIMULATION	2137
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2138
TEACHING ACTIVITY INVOLVED READING	2139
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2140
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2141
TEACHING ACTIVITY INVOLVED TAKING TEST	2142
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2143
TEACHING ACTIVITY INVOLVED OTHER METHODS	2144
NO MATERIALS ARE INVOLVED	2145
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2146
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2147
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2148
TYPES OF MATERIALS USED INCLUDE TEST	2149
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2150
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2151
OTHER TYPES OF MATERIALS ARE BEING USED	2152
WERE "AT RISK" STUDENTS INVOLVED	2153
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2154

TYPE OF EVENT OBSERVED	
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2155
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2156
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2157
INTERACTIONS OBSERVED	2158
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2159
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2160
ADEQUATE QUANTITIES/TYPES MATERIALS	2161
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2162
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2163
STUDENTS REQUIRED TO WRITE	2164
STUDENTS REQUIRED TO SPEAK	2165
DID STUDENTS RECEIVE FEEDBACK	2166
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2167
CONTENT AREA OR FOCAL TOPIC	2168
NUMBER OR STUDENTS INVOLVED	2169
HOW ARE STUDENTS GROUPED	2170
TEACHING ACTIVITY INVOLVED AV	2171
TEACHING ACTIVITY INVOLVED DISCUSSION	2172
TEACHING ACTIVITY INVOLVED LECTURE	2173
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2174
TEACHING ACTIVITY INVOLVED SIMULATION	2175
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2176
TEACHING ACTIVITY INVOLVED READING	2177
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2178
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2179
TEACHING ACTIVITY INVOLVED TAKING TEST	2180
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2181
TEACHING ACTIVITY INVOLVED OTHER METHODS	2182
NO MATERIALS ARE INVOLVED	2183
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2184
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2185
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2186
TYPES OF MATERIALS USED INCLUDE TEST	2187
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2188
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2189
OTHER TYPES OF MATERIALS ARE BEING USED	2190
WERE STUDENTS 'AT RISK' INVOLVED	2191
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2192
TYPE OF EVENT OBSERVED	2193
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2194
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2195
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2196
INTERACTIONS OBSERVED	2197
CLASSROOM OBSERVATION	2198

DESCRIPTION	VAR #
SNAPSHOT # L	

CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2199
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2200
ADEQUATE QUANTITIES/TYPES MATERIALS	2201
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2202
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2203
STUDENTS REQUIRED TO WRITE	2204
STUDENTS REQUIRED TO SPEAK	2205
DID STUDENTS RECEIVE FEEDBACK	2206

TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2207
CONTENT AREA OR FOCAL TOPIC	2208
NUMBER OR STUDENTS INVOLVED	2209
HOW ARE STUDENTS GROUPED	2210
TEACHING ACTIVITY INVOLVED AV	2211
TEACHING ACTIVITY INVOLVED DISCUSSION	2212
TEACHING ACTIVITY INVOLVED LECTURE	2213
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2214
TEACHING ACTIVITY INVOLVED SIMULATION	2215
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2216
TEACHING ACTIVITY INVOLVED READING	2217
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2218
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2219
TEACHING ACTIVITY INVOLVED TAKING TEST	2220
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2221
TEACHING ACTIVITY INVOLVED OTHER METHODS	2222
NO MATERIALS ARE INVOLVED	2223
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2224
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2225
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2226
TYPES OF MATERIALS USED INCLUDE TEST	2227
TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2228
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2229
OTHER TYPES OF MATERIALS ARE BEING USED	2230
WERE STUDENTS 'AT RISK' INVOLVED	2231
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2232
TYPE OF EVENT OBSERVED	2233
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2234
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2235
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2236
INTERACTIONS OBSERVED	2237
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2238
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2239
ADEQUATE QUANTITIES/TYPES MATERIALS	2240
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2241
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2242
STUDENTS REQUIRED TO WRITE	2243
STUDENTS REQUIRED TO SPEAK	2244
DID STUDENTS RECEIVE FEEDBACK	2245
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2246
CONTENT AREA OR FOCAL TOPIC	2247
NUMBER OR STUDENTS INVOLVED	2248
HOW ARE STUDENTS GROUPED	2249
TEACHING ACTIVITY INVOLVED AV	2250
TEACHING ACTIVITY INVOLVED DISCUSSION	2251
TEACHING ACTIVITY INVOLVED LECTURE	2252
TEACHING ACTIVITY INVOLVED DEMONSTRATION	2253
TEACHING ACTIVITY INVOLVED SIMULATION	2254
TEACHING ACTIVITY INVOLVED WRITTEN WORK	2255
TEACHING ACTIVITY INVOLVED READING	2256
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (PHYSICAL)	2257
TEACHING ACTIVITY INVOLVED PRACTICE/PERFORMANCE (VERBAL)	2258
TEACHING ACTIVITY INVOLVED TAKING TEST	2259
TEACHING ACTIVITY INVOLVED PREPARATION FOR ASSIGNMENTS	2260
TEACHING ACTIVITY INVOLVED OTHER METHODS	2261
NO MATERIALS ARE INVOLVED	2262
TYPES OF MATERIALS USED INCLUDE TEXTBOOK	2263
TYPES OF MATERIALS USED INCLUDE WORKSHEETS	2264
TYPES OF MATERIALS USED INCLUDE AV EQUIPMENT	2265
TYPES OF MATERIALS USED INCLUDE TEST	2266

TYPES OF MATERIALS USED INCLUDE CHALKBOARD	2267
TYPES OF MATERIALS USED INCLUDE MACHINES/TOOLS	2268

CLASSROOM OBSERVATION

DESCRIPTION

SNAPSHOT # L	VAR #
OTHER TYPES OF MATERIALS ARE BEING USED	2269
WERE STUDENTS 'AT RISK' INVOLVED	2270
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2271
TYPE OF EVENT OBSERVED	2272
DID THE STUDENTS APPEAR TO KNOW WHAT THEY WERE TO DO	2273
HOW MUCH AUTONOMY OR CONTROL DID STUDENTS HAVE	2274
STUDENTS WORKING ON SINGLE,SIMPLE OR COMPLEX TASK	2275
INTERACTIONS OBSERVED	2276
CARRYING OUT COMPLEX,SIMPLE OR NO INSTRUCTIONS	2277
ASSIGNMENTS REQUIRED JUDGEMENT OR EVALUATION	2278
ADEQUATE QUANTITIES/TYPES MATERIALS	2279
STUDENTS READ COMPLEX,SIMPLE OR NO MATERIALS	2280
STUDENTS COMPLETE SIMPLE OR COMPLEX MATH OPERATIONS	2281
STUDENTS REQUIRED TO WRITE	2282
STUDENTS REQUIRED TO SPEAK	2283
DID STUDENTS RECEIVE FEEDBACK	2284
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2285
CONTENT AREA OR FOCAL TOPIC	2286
NUMBER OR STUDENTS INVOLVED	2287
HOW ARE STUDENTS GROUPED	2288
BLANK	2289
WERE STUDENTS 'AT RISK' INVOLVED	2290
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2291
TYPE OF EVENT OBSERVED	2292
BLANK	2293
TEACHER,ADULT,INDIVIDUAL STUDENT OR OTHER "LEADER" OF INSTRUCTION	2294
CONTENT AREA OR FOCAL TOPIC	2295
NUMBER OR STUDENTS INVOLVED	2296
HOW ARE STUDENTS GROUPED	2297
BLANK	2298
WERE STUDENTS 'AT RISK' INVOLVED	2299
DID EPISODE START, END, OR CONTINUE DURING THIS PART OF OBSERVATION	2300
TYPE OF EVENT OBSERVED	2301
BLANK	2302

SYLLABUS

COURSE SYLLABUS AVAILABLE	2303
DOES SYLLABUS CONTAIN BEHAVIORAL OBJECTIVES	2304
DOES SYLLABUS CONTAIN LESSON PLAN	2305
ARE LESSON PLANS FAIRLY DETAILED	2306
IS SYLLABUS COMPETENCY BASED	2307
DOES SYLLABUS PROVIDE FOR INDIVIDUAL DIFFERENCES	2308
YEAR SYLLABUS WAS PREPARED	2309
YEAR SYLLABUS WAS UPDATED	2310
DOES SYLLABUS HAVE COMPREHENSIVE & SPECIFIC OBJECTIVES FOR ALL	2311
LISTED TECHNIQUES ADJUSTABLE TO MEET NEEDS OF EACH STUDENT	2312
SCHEDULING FOR INDIVIDUALS REFLECT AWARENESS OF DIFFERENCES	2313
SYLLABUS PROVIDES FOR INDIVIDUAL DIAGNOSIS AND PRESCRIPTION	2314

STUDENT INTERVIEWS

STUDENT INTERVIEWS AVAILABLE	
NUMBER OF STUDENTS INTERVIEWED	2315
DAY INTERVIEWED	2316
MONTH INTERVIEWED	2317
BLANK	2318
BLANK	2319
NUMBER CLASSIFIED AS VOCATIONAL STUDENTS	2320
NUMBER CLASSIFIED AS ACADEMIC OR COLLEGE PREP	2321
NUMBER CLASSIFIED AS GENERAL STUDENTS	2322
NUMBER DON'T KNOW	2323
NUMBER TAKING COURSE TO PREPARE FOR JOB	2324
NUMBER TAKING COURSE TO PREPARE FOR POST-SEC EDUCATION	2325
NUMBER TAKING COURSE BECAUSE OF PERSONAL INTEREST	2326
NUMBER TAKING COURSE TO FIND OUT ABOUT VOC CLASSES	2327
CLASSROOM DATABASE	2328

STUDENT INTERVIEWS

DESCRIPTION	VAR #
NUMBER TAKING COURSE FOR PRACTICALITY	2329
NUMBER TAKING COURSE BECAUSE ASSIGNED OR REQUIRED	2330
NUMBER MENTIONED OTHER REASONS	2331
NUMBER WOULD ENROLL IN COURSE AGAIN	2332
TIME SPENT WITH GUIDANCE COUNSELOR-STUDENT #1	2333
TIME SPENT WITH GUIDANCE COUNSELOR-STUDENT #2	2334
TIME SPENT WITH GUIDANCE COUNSELOR-STUDENT #3	2335
TIME SPENT WITH GUIDANCE COUNSELOR-STUDENT #4	2336
TIME SPENT WITH GUIDANCE COUNSELOR-STUDENT #5	2337
TIME SPENT WITH GUIDANCE COUNSELOR-STUDENT #6	2338
NUMBER OTHER VOCATIONAL COURSES TAKEN-STUDENT #1	2339
NUMBER OTHER VOCATIONAL COURSES TAKEN-STUDENT #2	2340
NUMBER OTHER VOCATIONAL COURSES TAKEN-STUDENT #3	2341
NUMBER OTHER VOCATIONAL COURSES TAKEN-STUDENT #4	2342
NUMBER OTHER VOCATIONAL COURSES TAKEN-STUDENT #5	2343
NUMBER OTHER VOCATIONAL COURSES TAKEN-STUDENT #6	2344
NUMBER RELATED VOCATIONAL COURSES TAKEN-STUDENT #1	2345
NUMBER RELATED VOCATIONAL COURSES TAKEN-STUDENT #2	2346
NUMBER RELATED VOCATIONAL COURSES TAKEN-STUDENT #3	2347
NUMBER RELATED VOCATIONAL COURSES TAKEN-STUDENT #4	2348
NUMBER RELATED VOCATIONAL COURSES TAKEN-STUDENT #5	2349
NUMBER RELATED VOCATIONAL COURSES TAKEN-STUDENT #6	2350
PLANS AFTER HS- STUDENT #1	2351
PLANS AFTER HS- STUDENT #2	2352
PLANS AFTER HS- STUDENT #3	2353
PLANS AFTER HS- STUDENT #4	2354
PLANS AFTER HS- STUDENT #5	2355
PLANS AFTER HS- STUDENT #6	2356
PREFERENCE ITEM 1 -STUDENT #1	2357
PREFERENCE ITEM 2 -STUDENT #1	2358
PREFERENCE ITEM 3 -STUDENT #1	2359
PREFERENCE ITEM 4 -STUDENT #1	2360
PREFERENCE ITEM 1 -STUDENT #2	2361
PREFERENCE ITEM 2 -STUDENT #2	2362
PREFERENCE ITEM 3 -STUDENT #2	2363
PREFERENCE ITEM 4 -STUDENT #2	2364

PREFERENCE ITEM 1 -STUDENT #3	2365
PREFERENCE ITEM 2 -STUDENT #3	2366
PREFERENCE ITEM 3 -STUDENT #3	2367
PREFERENCE ITEM 4 -STUDENT #3	2368
PREFERENCE ITEM 1 -STUDENT #4	2369
PREFERENCE ITEM 2 -STUDENT #4	2370
PREFERENCE ITEM 3 -STUDENT #4	2371
PREFERENCE ITEM 4 -STUDENT #4	2372
PREFERENCE ITEM 1 -STUDENT #5	2373
PREFERENCE ITEM 2 -STUDENT #5	2374
PREFERENCE ITEM 3 -STUDENT #5	2375
PREFERENCE ITEM 4 -STUDENT #5	2376
PREFERENCE ITEM 1 -STUDENT #6	2377
PREFERENCE ITEM 2 -STUDENT #6	2378
PREFERENCE ITEM 3 -STUDENT #6	2379
PREFERENCE ITEM 4 -STUDENT #6	2380

TEACHER QUESTIONNAIRE

TEACHER QUESTIONNAIRE AVAILABLE	2381
MONTH BORN	2382
YEAR BORN	2383
SEX	2384
HIGHEST LEVEL OF EDUCATION	2385
YEAR COMPLETED HIGHEST LEVEL OF EDUCATION	2386
ETHNIC GROUP	2387
STATE WHERE RECEIVED BACHELORS DEGREE	2388
HOW MANY YEARS EXPERIENCE AS FULL-TIME TEACHER	2389
HOW MANY DAYS OF TEACHING MISSED DURING PAST YEAR	2390
AVERAGE HOURS PER WEEK ASSIGNED TO TEACH	2391

TEACHER QUESTIONNAIRE

DESCRIPTION	VAR #
AVERAGE SIZE OF CLASS	2392
SUBJECT MOST FREQUENTLY TAUGHT	2393
SECOND MOST FREQUENTLY TAUGHT SUBJECT	2394
THIRD MOST FREQUENTLY TAUGHT SUBJECT	2395
# COURSES TAKEN IN MOST FREQUENT SUBJECT	2396
# COURSES TAKEN IN SECOND MOST FREQUENT SUBJECT	2397
# COURSES TAKEN IN THIRD MOST FREQUENT SUBJECT	2398
CERTIFICATION IN MOST FREQUENT SUBJECT	2399
CERTIFICATION IN SECOND MOST FREQUENT SUBJECT	2400
CERTIFICATION IN THIRD MOST FREQUENT SUBJECT	2401
HOW LONG CERTIFIED IN MOST FREQUENT SUBJECT	2402
HOW LONG CERTIFIED IN SECOND MOST FREQUENT SUBJECT	2403
HOW LONG CERTIFIED IN THIRD MOST FREQUENT SUBJECT	2404
HOW MUCH CONTROL IN SCHOOLWIDE CURRICULUM	2405
HOW MUCH CONTROL IN SELECTING CONTENT OF COURSES	2406
HOW MUCH CONTROL IN SELECTING INSTRUCTIONAL TECHNIQUES	2407
HOW MUCH CONTROL IN SELECTING INSTRUCTIONAL MATERIALS	2408
RANK-EMPHASIS PLACED ON BASIC SKILLS	2409
RANK-EMPHASIS PLACED ON ADVANCED SKILL DEVELOPMENT	2410
RANK-EMPHASIS PLACED ON CITIZENSHIP	2411
RANK-EMPHASIS PLACED ON SPECIFIC OCCUPATIONAL SKILLS	2412
RANK-EMPHASIS PLACED ON PERSONAL GROWTH	2413
RANK-EMPHASIS PLACED ON GOOD WORK HABITS AND SELF-DISCIPLINE	2414
RANK-EMPHASIS PLACED ON HUMAN RELATIONS SKILLS	2415
RANK-EMPHASIS PLACED ON MORAL AND RELIGIOUS VALUES	2416

RANK-EMPHASIS PLACED ON CAREER DEVELOPMENT SKILLS	2417
MONTHLY HOURS SPENT MEETING WITH DEPARTMENT HEAD	2418
MONTHLY HOURS SPENT MEETING WITH ADMINISTRATORS	2419
MONTHLY HOURS SPENT MEETING WITH ADVISORY COMMITTEE	2420
MONTHLY HOURS SPENT MEETING WITH OTHER TEACHERS	2421
MONTHLY HOURS SPENT MEETING WITH GUIDANCE STAFF	2422
MONTHLY HOURS SPENT MEETING WITH SPECIAL POPULATION COORDINATO	2423
WEEKLY HOURS SPENT IN HALL DUTY, STUDY HALLS, LUNCHROOM ETC.	2424
WEEKLY HOURS SPENT IN PAPERWORK	2425
WEEKLY HOURS SPENT PREPARING CLASSES, GRADING PAPERS	2426
WEEKLY HOURS SPENT COUNSELING-STUDENT'S PERSONAL PROBLEMS	2427
WEEKLY HOURS SPENT COUNSELING-STUDENT'S CAREER DEVELOPMENT	2428
WEEKLY HOURS SPENT TUTORING STUDENTS WITH SPECIAL NEEDS	2429
WEEKLY HOURS SPENT CONTACTING EMPLOYERS	2430
WEEKLY HOURS SPENT COACHING SPORTS	2431
WEEKLY HOURS SPENT IN OTHER EXTRA-CURRICULAR ACTIVITIES	2432
WEEKLY HOURS SPENT WORKING-SELF-EMPLOYED	2433
WEEKLY HOURS SPENT WORKING FOR EMPLOYER OTHER THAN SCHOOL	2434
WEEKLY HOURS SPENT BACKGROUND READING IN SUBJECT AREA	2435
WEEKLY HOURS SPENT OTHER BACKGROUND READING	2436
WEEKLY HOURS SPENT DEVELOPING MATERIALS FOR SPECIAL NEEDS STUD	2437
WEEKLY HOURS SPENT IN ADDITIONAL PROFESSIONAL TRAINING	2438
WEEKLY HOURS SPENT IN PREPARING AND REVIEWING IEP'S	2439
TIMES SUPERVISOR OBSERVED TEACHING LAST YEAR	2440
MONTHLY HOURS SPENT CONFERRING ABOUT STUDENT'S TESTS, ATTITUDE	2441
MONTHLY HOURS SPENT PREPARING IEP'S	2442
MONTHLY HOURS SPENT ON CAREER GUIDANCE ACTIVITIES	2443
WORK FULL-TIME /PART-TIME	2444
MONTHS PAID FOR	2445
SALARY RANGE	2446
COURSES TAKEN IN TECHNIQUES FOR TEACHING GIFTED	2447
COURSES TAKEN IN TECHNIQUES FOR TEACHING HANDICAPPED	2448
COURSES TAKEN IN COMMUNICATIONS/LANGUAGE ARTS	2449
COURSES TAKEN IN WORKING WITH LEP/BILINGUAL	2450
COURSES TAKEN IN TEACHING DROPOUT PRONE STUDENTS	2451
COURSES TAKEN IN TEACHING PRGMS NONTRADITIONAL FOR SEX	2452
COURSES TAKEN IN TEACHING BASIC SKILLS IN SUBJECT AREA	2453
COURSES TAKEN IN TEACHING MATHEMATICS	2454
COURSES TAKEN IN ADDRESSING NEEDS OF SINGLE PARENTS	2455
# PARENTS TALKED TO LAST YEAR	2456
HALF-DAYS SPENT IN INSERVICE FOR WHOLE SCHOOL STAFF	2457
HALF-DAYS SPENT IN INSERVICE FOR SMALL GROUP	2458
HOURS OF INSERVICE IN TECHNIQUES FOR TEACHING GIFTED	2459
HOURS OF INSERVICE IN TEACHING HANDICAPPED	2460
HOURS OF INSERVICE IN WORKING WITH LEP/BILINGUAL	2461
HOURS OF INSERVICE TEACHING DROPOUTS	2462
HOURS OF INSERVICE WORKING IN PRGMS NONTRADITIONAL FOR SEX	2463
HOURS OF INSERVICE FOR ADDRESSING NEEDS OF SINGLE PARENTS	2464

TEACHER QUESTIONNAIRE

DESCRIPTION	VAR #
HOURS OF INSERVICE FOR TEACHING BASIC SKILLS IN SUBJECT AREA	2465
RATE INSERVICE APPROACH- INDIVIDUAL ADVICE	2466
RATE INSERVICE APPROACH- INDIVIDUALIZED TEACHING	2467
RATE INSERVICE APPROACH- OBSERVATION OF SUCCESSFUL PROGRAMS	2468
RATE INSERVICE APPROACH- WORKSHOPS	2469
RATE INSERVICE APPROACH- COURSES	2470
RATE INSERVICE APPROACH- ON THE JOB EXPERIENCES(INTERNSHIPS)	2471

PREFERENCE FOR INSERVICE- PROFESSIONAL DAYS	2472
PREFERENCE FOR INSERVICE- MORNINGS BEFORE SCHOOL	2473
PREFERENCE FOR INSERVICE- AFTERNOONS AFTER SCHOOL	2474
PREFERENCE FOR INSERVICE- EVENINGS AFTER SCHOOL	2475
PREFERENCE FOR INSERVICE- WEEKEND	2476
PREFERENCE FOR INSERVICE- SUMMER WEEKDAYS	2477
STAFF IN SCHOOL DON'T HAVE SCHOOL SPIRIT	2478
LEVEL OF STUDENT MISBEHAVIOR HIGH	2479
USE OF DRUGS /ALCOHOL IN SCHOOL BELOW NATIONAL AVERAGE	2480
STUDENT TARDINESS AND CLASS CUTTING VERY PREVALENT	2481
ATTITUDES OF STUDENTS NOT CONDUCIVE TO LEARNING	2482
SCHOOL SEEMS LIKE A BIG FAMILY	2483
LITTLE COOPERATION BETWEEN STAFF AND STUDENTS	2484
VERY POSITIVE CLIMATE EXISTS IN SCHOOL	2485
STAFF HAVE MANY OPPORTUNITIES FOR INSERVICE	2486
STAFF SUPPORTS NEED TO MAINSTREAM HANDICAPPED STUDENTS	2487
IMPORTANCE OF ABSOLUTE LEVEL OF ACHIEVEMENT WHEN GRADING	2488
IMPORTANCE OF RELATIVE LEVEL OF ACHIEVEMENT WHEN GRADING	2489
IMPORTANCE OF INDIVIDUAL IMPROVEMENT WHEN GRADING	2490
IMPORTANCE OF EFFORT WHEN GRADING	2491
IMPORTANCE OF CLASS PARTICIPATION WHEN GRADING	2492
RATE STUDENTS IN READING	2493
RATE STUDENTS IN WRITING	2494
HOW MANY EXAMINATIONS PER GRADING PERIOD	2495
HOW MANY QUIZZES PER GRADING PERIOD	2496
HOW MANY MINUTES OF HOMEWORK FOR EACH CLASS PERIOD	2497
HOW MANY WRITING ASSIGNMENTS PER MONTH	2498
TEACHING TIME PER WEEK SPENT REINFORCING READING SKILLS	2499
TEACHING TIME PER WEEK SPENT REINFORCING MATHEMATICS SKILLS	2500
TEACHING TIME PER WEEK SPENT REINFORCING WRITING SKILLS	2501
TEACHING TIME PER WEEK SPENT REINFORCING LANGUAGE SKILLS	2502
% CLASS SPENT ON ROUTINE ACTIVITIES	2503
% CLASS SPENT GETTING STUDENTS TO BEHAVE, BE QUIET, ETC.	2504
% CLASS SPENT ON INSTRUCTION	2505
% CLASS SPENT ON STUDENT PRACTICE OF SKILLS	2506
% CLASS SPENT ON OTHER ACTIVITIES	2507
% STUDENTS FORMALLY RECOGNIZED FOR PERFORMANCE DURING PAST YEA	2508
MINUTES PER WEEK SPENT PRACTICING SPECIFIC VOCATIONAL SKILLS	2509
MINUTES PER WEEK SPENT LEARNING VIA AUDIOVISUALS	2510
MINUTES PER WEEK SPENT WATCHING DEMONSTRATIONS	2511
MINUTES PER WEEK SPENT LISTENING TO LECTURES	2512
MINUTES PER WEEK SPENT APPLYING MATH TO PRACTICAL PROBLEMS	2513
MINUTES PER WEEK SPENT READING COURSE RELATED MATERIALS	2514
MINUTES PER WEEK SPENT COMPLETING TESTS	2515
MINUTES PER WEEK SPENT WRITING	2516
MINUTES PER WEEK SPENT SPEAKING, MAKING PRESENTATIONS	2517
MINUTES PER WEEK SPENT ON OTHER ACTIVITIES	2518
TOTAL MINUTES CLASS MEETS PER WEEK	2519
% FEMALES IN CLASS	2520
% MALES IN CLASS	2521
% WHITE IN CLASS	2522
% BLACK IN CLASS	2523
% HISPANIC IN CLASS	2524
% OTHER MINORITIES IN CLASS	2525
% HANDICAPPED IN CLASS	2526
% LIMITED ENGLISH PROFICIENT IN CLASS	2527
% ECONOMICALLY DISADVANTAGED IN CLASS	2528
% SINGLE PARENTS IN CLASS	2529
% OF HANDICAPPED FOR WHICH REVIEWED IEP	2530
% OF HANDICAPPED FOR WHICH HELPED PREPARE IEP	2531

TEACH VOCATIONAL COURSES	
% DROP OUT OF PROGRAM BUT NOT SCHOOL	2532
% DROP OUT OF PROGRAM AND SCHOOL	2533
ARE THERE STUDENTS IN PROGRAM WHO ARE RETURNERS	2534
% OF STUDENTS WHO ARE RETURNERS	2535
RANK GOAL- PLACEMENT IN JOBS RELATED TO TRAINING	2536
TEACHER QUESTIONNAIRE	2537

DESCRIPTION	VAR #
RANK GOAL- PROVIDE COMPETENCIES FOR JOBS	2538
RANK GOAL- PLACEMENT REGARDLESS OF TRAINING RELATEDNESS	2539
RANK GOAL- ENHANCE AWARENESS OF VARIOUS JOBS	2540
RANK GOAL- OCCUPATION EXPLORATION	2541
RANK GOAL- HELP DEVELOP WORK ETHIC	2542
RANK GOAL- REINFORCE BASIC SKILLS	2543
RANK GOAL- PROMOTE ACCESS AND EQUITY	2544
IS THERE SCHOOL SPONSORED JOB PLACEMENT SERVICE	2545
CURRENT JOB INFORMATION AVAILABLE TO STUDENTS	2546
SUMMER JOB FINDING SERVICE AVAILABLE	2547
PART-TIME NON-COOP JOB FINDING SERVICE AVAILABLE	2548
PART-TIME COOP JOB FINDING SERVICE AVAILABLE	2549
FINDING JOBS FOR STUDENTS ABOUT TO GRADUATE AVAILABLE	2550
FINDING WORK STATIONS FOR CAREER EXPLORATION AVAILABLE	2551
MORE STUDENTS APPLY TO PROGRAM THAN THERE ARE OPENINGS	2552
ADVISORY GROUP ARRANGEMENT	2553
SOURCE USED FOR PGM: STATE PLAN FOR VOC ED	2554
SOURCE USED FOR PGM: STATE EMPLOYER PLAN	2555
SOURCE USED FOR PGM: STATE OCC. INFO. COORDINATING COMMITTEE	2556
SOURCE USED FOR PGM: STATE EMPLOYMENT SERVICES	2557
SOURCE USED FOR PGM: TECHNICAL ADVISORY GROUP	2558
SOURCE USED FOR PGM: SURVEYS OF LOCAL EMPLOYERS	2559
SOURCE USED FOR PGM: LOCAL OCCUPATIONAL PUBLICATION	2560
WOULD USE FOR REVISING PGM: STATE INSTRUCTIONAL MATERIALS LAB	2561
WOULD USE FOR REVISING PGM: CURRICULUM CENTER FOR REGION	2562
WOULD USE FOR REVISING PGM: EDUCATIONAL PUBLISHERS	2563
WOULD USE FOR REVISING PGM: COMMERCIAL PUBLISHERS	2564
WOULD USE FOR REVISING PGM: RESEARCH & DEVELOP. AGENCIES	2565
WOULD USE FOR REVISING PGM: LOCAL TEACHER MADE MATERIALS	2566
DOLLAR VALUE OF DONATED EQUIPMENT	2567
PROGRAM NOT COMPETENCY BASED	2568
COMPETENCY BASED USED: PROGRESS CHARTS	2569
COMPETENCY BASED PGM USES: MASTERY CHARTS	2570
COMPETENCY BASED PGM USES: COMPUTER RECORDING AND FEEDBACK	2571
COMPETENCY BASED PGM USES: STANDARDIZED WRITTEN TEST	2572
COMPETENCY BASED PGM USES: STANDARDIZED SKILL PERFORMANCE TEST	2573
COMPETENCY BASED PGM USES: TEACHER CONSTRUCTED WRITTEN TESTS	2574
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